

AMERICAN BEE JOURNAL

"Making Good"

BY STRICKLAND W. GILLILAN

My boy, you think that all you have to do is "make a hit;"
To catch the public eye and ear, then evermore be "it;"
You think one stroke sufficient for one lifetime—may be two;
That once a man is famous, there is nothing left to do.
I hate to wake you, sonny, from your iridescent dream,
And keep your skiff from drifting any further down the stream;
But here's what I've discovered: He who's done the best he could,
Is merely obligated just to keep on "making good."



One little flight's a promise that you'll spread your wings and soar;
One decent job's an earnest that you'll do a thousand more;
One leap to public favor is a pledge that you will stay;
You can't do that unless you make a new mark every day.
The jump you made to wealth or fame will do less good than harm,
If, by your desultory style, you prove "a false alarm."
One well-directed arrow never made a Robin Hood;
One winning stroke but binds you to the task of "making good."



This world was never constructed for the lazy man of dream;
One flash is not a nugget,—gold is constant with its gleam;
The world keeps looking higher than the level you've attained,
And thinks you retrograding till 'tis certain you have gained;
No stand-still will it tolerate; slide back, and you will see
Your name among the "has beens" as a harmless "used-to-be."
The standard you established when you did the best you could
Was but your affidavit that you'd keep on "making good."

—Success Magazine.



American Bee Journal



PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

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Reading Notices, 25 cents, count line, subject to the above discounts.
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- 2d.—To protect and defend its members in their lawful rights.
- 3d.—To enforce laws against the adulteration of honey.

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CONVENTION NOTICE.

National in Texas.—The National Bee-Keepers' Association will hold its annual convention Nov. 8, 9 and 10, 1906, in San Antonio, Texas. These dates occur at a time when the Texas Fair is in progress, and low rates will be in force, locally, for several hundreds of miles out of San Antonio, and, at the same time, there will be home-seekers' rates available from other parts of the country.
Flint, Mich. W. Z. HUTCHINSON, Sec.

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CHICAGO, ILL., June 30, 1906.

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June 20th we were so unfortunate as to have a large fire in the building we occupied, which nearly destroyed our entire stock of Bee-Supplies. We at once secured much larger and better quarters on the first floor at 191 & 193 E. SUPERIOR ST. (3 blocks north and 1 block east of our former location), and ordered a full line of the FAMOUS LEWIS BEE-WARE—the best that money can buy. We are now in our new quarters and ready to ship goods by return freight or express.

Thanking you for past favors, and trusting to receive your future orders, we are,

Yours truly,

H. M. ARND,

Proprietor of

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191 & 193 E. Superior Street,
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The illustration shows one of the A. K. Ferris hives under process of manipulation. Every bee-keeper will be interested in reading about these hives arranged according to the Ferris' system for the Prevention of Swarming for Comb Honey Production.

The Non-Swarming articles by Mr. Ferris and Mr. G. M. Doolittle are proving exceedingly interesting. This great series is fully illustrated and will be continued throughout the remaining issues of 1906.

Among our other regular contributors are Mr. J. A. Green, Dr. C. C. Miller, E. W. Alexander, and many other bee-keepers of note.

No bee-keeper who will take time to look through one number of *Gleanings in Bee Culture* can satisfy himself that he does not need this "Journal of Profit."

We make it easy for you to give *Gleanings* a thorough trial; here's the offer:

A six month's trial trip, 25c.

If you will send in your remittance before the back numbers from April 1st, in which the introductory articles on the Non-Swarming series have appeared, are all gone, we will include these free of charge.

Gleanings in Bee-Culture

MEDINA, OHIO

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GERMAN BEE-BRUSH

Some months ago Mr. R. F. Holtermann called our attention to a bee-brush which he received from Germany, made of genuine bristle or horsehair. He had used one a whole season, washing it out often, and it appeared to be as good at the end of the season as at the beginning. He considered it so far ahead of anything he had ever seen or used that he wanted no other. We concluded if it was so good for him it must be equally good for others. We are now provided with a stock which we offer at 25 cents each; by mail, 30 cents. The bristles are black, and about 2 inches long, extending 8 inches on the handle. Made of white hair it would cost 5 cents more.



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GEORGE W. YORK, Editor

CHICAGO, ILL., JULY 5, 1906

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Changeableness of Honey-Sources

Editor Hutchinson has the following editorial in his last Bee-Keepers' Review:

Very few of the honey-sources remain the same for a long term of years in the same locality. Probably white clover comes as near doing this as any of the honey-plants. The sages that grow in the mountain canyons of California have furnished honey for many years, and probably will continue to do so, as the steepness of the mountain sides prevents their being plowed up. The same might be said of the clover upon the hillsides of old Vermont; but, in many sections of the country, the sources of the honey-supply are continually shifting. For instance, in some parts of Northern Michigan the basswoods once furnished bountiful harvests of honey; then came the lumberman's ax and cut them away. In their wake came the raspberry, which furnishes a larger and surer harvest; but it is only a question of time when the farmers' plow will root out the berries, and their place will be taken by the clover, that even now comes creeping in.

In some parts of New York buckwheat is now the main source of honey supply—what it was years ago I don't know—possibly basewood and clover.

In many parts of the West irrigation was followed by the cultivation of immense fields of alfalfa, from which the bee-keeper has reaped a bounteous crop; but the tendency of late, on the part of the farmer, to cut the alfalfa early is lessening the yield of honey, and the outcome is somewhat uncertain.

A new or timbered country always furnishes different sources of honey than abound after the country is cleared. Civilization brings the fruit-bloom, the alsike and white clover, the buckwheat, the sweet clover, etc.

The bee-keeper who expects to succeed must study all of these things, and govern his actions accordingly. Don't buy land and put up expensive, special building, cellars, etc., in a locality where the bee-pasturage is likely to pass away in a few years.

Mr. Hutchinson has, in the foregoing, called attention to an important matter. And yet, Dr. Miller secured his largest crop of honey in 1903, in a locality which is quite thoroughly tilled by the farmers. It seems that Nature has so ordained that when there is a lack or shortage in certain directions there are other things that make up for it, so as to sustain a somewhat even balance.

Some 20 or 25 years ago there were good honey seasons in succession, and then came a series of almost total failures. Some began to enquire, Will the good honey seasons ever come again? and seemed to argue that it was quite possible that they might not. But they did come again, and so abundant that 1903 was considered the greatest honey-year ever known in this country.

There are a lot of things about which most of us "don't know" anything very definite. And the future honey-seasons is one of them.

Black Brood in the United States—A Warning

The following is an editorial that appears in Gleanings for July 1. It was considered so important that an advance proof was sent to us so that we might also get the warning to our readers as quickly as possible:

IS BLACK BROOD SPREADING IN THE UNITED STATES?—A NOTE OF WARNING.

Anywhere from one to half a dozen specimens of affected brood are being sent us every week during the summer. I have been fearful for some time that, in addition to the regular foul brood, so named in this country, we have been getting specimens of black brood, or what the United States and Cornell bacteriologists call the European foul brood. During the last 30 days we have been handing in several suspicious samples to Dr. E. F. Phillips, of the Department of Agriculture, Washington, D. C., who, in turn, handed them over to the Government Bacteriologist. The reports that I got back were somewhat alarming. One specimen of brood from Illinois, and 3 from Pennsylvania were pronounced to be black brood. I feared as much when I forwarded the specimens to Washington. Other specimens have been found in California.

I have just examined 2 specimens sent from Michigan, which, I think, are black brood, without question.

When I first received this report from Washington I was a little uncertain what to do; but the more I thought of it the more I became convinced that I ought to inform the bee-keepers of those States that the insidious disease is lurking in their borders.

When it is remembered that black brood came very near wiping out bee-keeping in New York, and that it was only by the most strenuous efforts on the part of 4 of the best inspectors in the country that it was brought under control, the bee-keepers of these other States may well pause and ponder.

I would respectfully urge every bee-keeper to keep a tab on the brood in his yard. When he sees any unsealed dark-colored brood, especially if it be of a coffee color, yellow or brown, and finds, further, that it is accompanied by a sickening or foul odor, he would better send a sample of the brood *without any honey* at once either to Washington, D. C., or Medina, Ohio. But in any case send it in a *stout* wooden or tin box, the whole wrapped in *heavy manila paper*. Besides using a strong box, wrap the brood itself in paraffined or oiled paper. It is not necessary to have a large sample of brood; but hunt up a small wooden or tin box and cut the brood to fit, so it will go in without crowding after it has been wrapped in paraffined paper.

Remember to send *brood only*, and *no honey* with it, for the honey introduces an element of danger to the recipient. *Brood samples put up in paper, or paper boxes, we shall not examine, but burn them before unwrapping; so don't send them.*

When sending samples be sure to put on your own name and address. About half a dozen of the samples sent us were not marked. As we are getting a good many every week, absolute identification of each sample is rendered difficult, if not impossible.

DEAD BROOD, NOT FOUL.

Shortly following a chill or cold spell in the East, quite a number of bee-keepers reported a quantity of dead brood. One or two apiaries seem to have had a large amount of it. Samples of the brood were sent here, and we diagnosed them as dead or poisoned brood. They were sent, one to N. D. West, of Middleburg, N. Y., and the other to N. E. France, of Platteville, Wis., foul brood inspector of Wisconsin. Both men confirmed our diagnosis. On receiving the samples we wrote all the parties that we thought it was nothing serious; that it would all disappear in 10 days or 2 weeks. Happening to be in the East lately on special business, I visited one or two of the affected yards, and found, as I suspected, that the bees were coming out all right. The brood that had died seemed to be all of one age. All new brood was healthy, and seemed to be in first-class condition.

American Bee Journal

THE DIFFERENTIATION OF BLACK AND FOUL BROOD.

The two diseases, black and foul brood, have several symptoms that are alike. For example, the general appearance of a comb affected with either disease—perforated and sunken cappings, yellow, brown, or coffee-colored larvae—is about the same. Black brood and foul brood both have distinctively a disgusting odor, and the odors of both are alike, or very much so. The foul brood with which we have been most familiar smells like old glue, while the diseased matter from black brood has a little more (or at least to me) of a putrid smell. But the main point of difference, so far as I know it, is that one rots and the other does not. The dead matter lying in the cells of foul brood will string out like spittle, from half an inch to an inch from the cell, when a pin is immersed in it and slowly withdrawn. On the other hand, black brood rots not at all, or very slightly, seeming to have a more jelly-like or watery consistency.

Some pickled brood looks very much like black brood; but it does not have the odor of that disease. I was formerly under the impression that only pickled brood would show mold; but in this Dr. Phillips says I am in error, and I have since seen genuine specimens of black brood that would have considerable mold over the surface of it. In a word, the mold has nothing to do with the diagnosis, as it may be found with any specimen of dead brood—especially so if the specimen has been confined in a damp, cool place.

There is another difference between the general character of the larvae of black and foul brood, but I am not enough of an expert to state the precise differentiation.

E. R. Root.

Medina, Ohio.

This certainly is an exceedingly important matter, and it behooves bee-keepers everywhere to be on the alert in regard to it. Remember that samples of suspected brood can be sent for identification of disease, to either E. R. Root, Medina, Ohio, or Dr. E. F. Phillips, care Department of Agriculture, Washington, D. C. Be sure to remember the explicit directions as to packing and mailing the samples.

Blacks vs. Italians in England

In this country very few can be found who prefer blacks to Italians, while in England blacks are generally in favor. Mr. F. W. L. Sladen, an authority in England, holds the same view as our Mr. J. E. Crane, that the most honey can be obtained by rearing queens from pure Italian stock and mating them with good grades. He says in the British Bee Journal:

The prolificness, beauty, and good temper of the Italian bee are undisputed; but conflicting opinions as to its honey-producing value appear in our journals from time to time. The difference of opinion is partly due to the fact that some writers do not clearly distinguish between the pure Italian bee and the crossbreds between the Italian and English bee.

The average yield of surplus honey from colonies of pure Italian bees is, in my apiary, not quite so much as that from colonies of English bees, the difference being greatest in cool and windy weather in spring; but the average yield from colonies of the crossbreds is considerably greater than that from colonies of English bees.



Miscellaneous News - Items

Prof. A. J. Cook, who has spent the past year in study and investigation in Germany, expects to sail from Liverpool, England, on July 11, and to reach the United States about Aug. 15.

The Bee-Keepers' Demonstrating Field-Meeting, held at Jenkintown, Philadelphia, June 26, by the A. I. Root Co., was attended by 800 persons. We have not heard any further particulars at this writing, but infer that it must have been a success.

Bee-Supply Firm Burned Out.—On the morning of June 20 a fire started in the basement of the building at 141 Ontario St., Chicago, the second floor of which was occupied by the York Honey and Bee-Supply Co., of which H. M. Arnd is the proprietor. It resulted in practically a total loss, with a fair amount of insurance. As a result, Mr. Arnd has secured larger and better quarters on the first floor of the building at 191 and 193 E. Superior St., Chicago, 3 short blocks north and 1 block east of the former location.

A new stock of goods has been put in, and everything is ready for business again, just the same as before the fire.

Having suffered, ourselves, from a fire when in the bee-supply business some years ago, we know how to sympathize with Mr. Arnd. However, he has taken hold courageously, and with the kindness of the manufacturing firm whose bee-supplies he handles, he is in a position to go forward with even greater success than heretofore. Mr. Arnd has worked hard to establish himself in business, and is deserving the patronage of bee-keepers. (See his announcement on another page.)

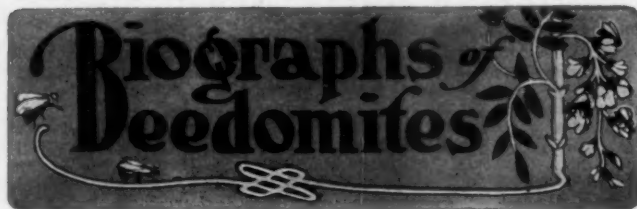
Mr. Arthur L. Boyden, Secretary of the A. I. Root Co., with Mrs. Boyden, passed through Chicago last Thursday evening on their way to the Pacific Coast, where they will spend a short time.

Mr. C. P. Dadant, President of the National Bee-Keepers' Association, writing us June 26, said that he had been laid up for about 10 days with rheumatism—some sort of lumbago—which was very painful.

Bee-Supply Mailing-Cards are being used quite extensively by the G. B. Lewis Co., of Watertown, Wis. The last one we have seen has on it a good picture of an open crate of 500 of their fine sections, with prices on 100 up to 50,000. It also shows a list of their principal agents. Such cards ought to be a great help in reminding bee-keepers where they can get good supplies promptly.

General Manager N. E. France, of Platteville, Wis., writes that he has just returned from a long trip over that State, and finds that a small part of northeastern Wisconsin promises a honey crop this season. For himself, he says there will be no honey. Many reports have been received by him, nearly all of which tell the same story—not much if any honey as yet. It is to be hoped that the recent rains may help some, and also that there may yet be the right kind of weather for a honey-flow.

A Queen-Bee Free as a Premium.—We are now booking orders for Untested Italian Queens to be delivered in May or June. This is the premium offer: To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1906, we will mail an Untested Italian Queen for sending us one new subscription with \$1.00 for the Bee Journal a year. Or, we will renew your subscription to the American Bee Journal for a year, and send a fine Untested Italian Queen—both for \$1.50. Now is a good time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.



Biographs of Deedomites

JAMES A. GREEN

Mr. James A. Green's latest picture appears on page 279. The original was taken by Mr. Green himself last winter. It is something of a novelty photographically, as it was taken entirely by himself, no other person having had anything to do with it, or even being present when it was taken. It must have seemed strange to Mr. Green to "look pleasant" all by himself.

Mr. Green, some years ago, was one of the leading bee-keepers of Illinois, and since going to Grand Junction, Colo., he, of course, is one of the best bee-keepers in that State. He is an excellent writer, and thoroughly progressive and up to date in bee-keeping. We believe his comb honey exhibited at the St. Louis Exposition in 1904 won the gold medal.

American Bee Journal

When sending us his photograph on June 16, Mr. Green wrote as follows:

The bees have not done very well this year so far, having been generally in rather poor condition to start the season. Three of my apiaries are doing very fairly, but the other 3 not nearly so well.

Prospects are not of the best either, as grasshoppers are very numerous and may eat up the sweet clover.

The first crop of alfalfa has been cut, and but little surplus honey was secured from it.

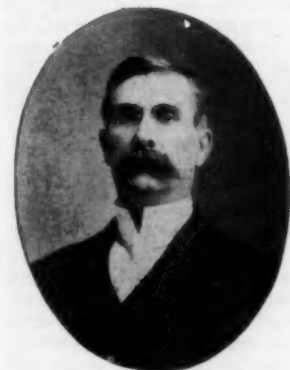
J. A. GREEN.

J. C. ACKLIN

Several weeks ago we announced the sudden death of Mr. Acklin, at St. Paul, Minn. Since then we have received the following brief biographical sketch from one of his most intimate friends, the Rev. Chas. D. Blaker, pastor of the Richfield Baptist Church, near Minneapolis:

The death of Mr. J. C. Acklin came as a great surprise to his many friends. On May 25 he was apparently as well as usual. He ate a hearty supper, after which he went to deliver a colony of bees to a customer living at Highwood—a suburb of St. Paul. After he had put the hive in place, and was about to leave, he was stricken with apoplexy. He became unconscious before Mrs. Acklin could reach his side. He was taken to the hospital, where he passed away the next morning (May 26), not having regained consciousness.

Mr. Acklin was born in Fayette Co., Pa., March 22, 1852. Before leaving his native State he was engaged in the carriage business with his father. For several years after coming to Minnesota his business was that of general contractor and builder. He was then employed by the Great Northern Railway Co. as lumber inspector. About 6 years ago he relinquished his position with the railroad company in order to devote his whole time to the bee-supply business, which Mrs. Acklin



J. C. ACKLIN

had started 7 years before. He had charge of the Northwestern Agency of the A. I. Root Co.

Mr. Acklin has been a member of the Minnesota Bee-Keepers' Association since its organization, and an officer of the Association for the past 6 or 7 years. He will be greatly missed by all the friends of the Association. He devoted much time each year to the preparation of the annual program and in looking after the interests of the Association in general. He was absent from only one of its sessions, at that time he and his family being in California.

Mr. Acklin was a man of sterling character, a devoted husband and father. He was an active member of the People's Church of St. Paul, and the Treasurer of its Sunday-school. He leaves a wife, who has been indeed a true helpmate to him, and a daughter, Ethel, who is 13 years of age, to mourn his loss. They have the sympathy of a large circle of friends who mourn with them in this hour of bereavement.

CHAS. D. BLAKER.

In a private letter to us Mr. Blaker writes this paragraph:

"A good man has closed his labors here to enter upon the life eternal. He was a man who was not ashamed to be known as a disciple of the Lord Jesus Christ. His death is a great loss to us all."

As mentioned in connection with the announcement of Mr. Acklin's death in a previous number of the American Bee Journal, we were personally acquainted with him for a number of years, as well as with Mrs. Acklin and their daughter Ethel. We had met the family at various State and National conventions of bee-keepers, and also at the Minnesota State convention held in Minneapolis a year ago last December. We also have had the pleasure of meeting the Acklin family in their pleasant home in St. Paul, where their friends and guests were given the widest kind of hospitality. Ever since meeting Mr. Acklin we have counted him as one of our strongest friends, and so feel the loss perhaps as keenly as any one outside of his immediate family or relatives.

We are glad to know that Mrs. Acklin will be able to continue their business with the assistance of the young man who has been with them for many years.

The Minnesota Bee-Keepers' Association will miss the active help and interest of Mr. Acklin, as he was one of the moving spirits of that organization.

As all of us grow older, more and more our friends

of many years are rapidly passing away. Perhaps this is more noticeable in an office like ours where so many deaths of those prominent in beedom are reported. As it becomes our duty in many cases to announce these sad events, of course they are impressed upon us more, perhaps, than on any one else outside of relatives and intimate friends. As it has been our privilege to meet so many of the leaders among bee-keepers at various conventions during the past 12 or 15 years, we have come to know them personally in a way that makes us feel doubly their loss when any of them are taken away. We recall quite a number who, during their lives, helped to make bee-keeping and bee-literature what it is to-day. There was Langstroth and Newman; Chas. Dadant and Dr. A. B. Mason; Capt. Hetherington and Dr. Gallup; and many others who might be mentioned. And likely during the next 10 years there will be added to the increasing list of departed ones many who to-day are leaders in our chosen field of apiculture.

Perhaps in no other field of human endeavor are there so many good, clean men and women as are to be found in the ranks of bee-keepers. We know that nowhere outside of the conventions of religious organizations do we find as high and noble a class of people as at bee-keepers' conventions. It certainly means a good deal to be able to say so much as this; and yet why should it not be so? There is certainly no other business more cleanly and elevating in every particular than that of the care of bees and the production of honey. Whether or not bee-keepers are a "sweet" people, they ought to be such, if they partake of the nature of their business and product. Surely, they ought to be clean in habits and character, for the inspiration to such qualities should come from the lessons to be learned from the life and work of the bee itself.



14—Dadant Methods of Honey-Production

BY C. F. DADANT.

IT seems as if we would have a very good chance to talk about harvesting honey and removing the surplus this year, for we will not be very busy, and there will be no surplus to remove, if the summer continues as dry and cool as it is at present. But these are the very days when it is well to talk it over. Another season may keep us so busy doing work that we will have no chance to talk about *how* to do it.

By the way, just let me say that I have seen the real honey-dew without aphides, on acorns, lately. This morning I passed under an oak-tree which had dripped the dew in large drops to the sidewalk, and the bees were exceedingly busy on that tree, around the acorns. The days are warm, the nights are cool, and this proves the correctness of the statement made, some years ago, by Gaston Bonnier, of Paris, in his work, "Les Nectaires," that "honey" is often produced by what he calls "extra-floral tissues" in some trees; this production of extra-floral honey is hastened and increased by sudden changes of temperature that prevent the flow of the sap to the end of the buds. It is thus caused to ooze out through unusual channels.

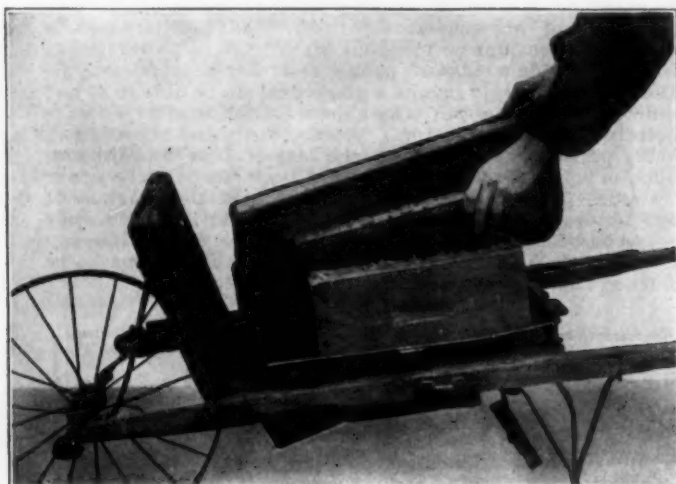
Let us return to the removal of the surplus honey. Many apiarists arrange to have their colonies located above the honey-house, so that there may be no necessity of carrying or dragging the crop uphill; others—but they are not very numerous—have arranged a system of rails upon which they run little cars to take the honey from the apiary to the honey-house. I confess, we have never yet practiced bee-culture on so modern a scale. We have, however, always aimed to keep our hives in an accessible place, and have tried to keep our honey-house on a level with the apiary. But in our home apiary the honey-house is a few feet above the apiary, and we find no difficulty in transporting a large

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crop from the hives to the extractor. For this purpose we use a wheelbarrow, on which the supers are placed.

On extracting days, the first thing our boys provide is a half-dozen brushes made of some green material, usually asparagus tops, and sometimes other weeds. Good brushes are sold in Europe, that are soft and efficient. I hope that brushes will be made here, sooner or later, that will be serviceable. Those now sold are either too firm or too irregular to give very good service. Some people use a goose wing or a turkey wing. These things are not good, for they anger the bees.

If the Porter bee-escape is used, no brushing will be needed, but we do not like to use the escape in very hot weather, as it closes the super entirely and excludes ventilation from it. In cool nights of summer or during the fall, the bee-escape is quite useful. We place them on the hives the previous evening. We have about 60 at each apiary,



WHEELBARROW DADANTS USE IN EXTRACTING.

and it is not a very long job to place them on. But when the out-apiary is far away, it requires going there one day ahead of time.

When the bee-escapes are not used, if the crop is at end, it is necessary to use a great deal of caution not to incite robbing. So we use what Dr. Miller calls the "robber-cloths," made strong gunny or sack cloth folded double and tacked at both ends between two slats, to make it easily movable. A shallow pan under the supers serves to catch the dripping honey in case the bees have built bridges and brace-combs. This happens only in very great years. Usually, the bridges and brace-combs are almost entirely beeswax and propolis, and do not contain any cells of honey. This is where a thick, wide top-bar shows its usefulness, for with a thin, narrow top-bar to the brood-frames we would find many more brace-combs.

When the honey is brought to the honey-room the combs are uncapped and the brace-combs scraped off at the same time from each of the frames, so that the frames are thus cleaned of any projections built by the bees, before they are returned. It is in the uncapping that we find the greatest advantage of the 6-inch extracting frame. A single stroke of the honey-knife will uncap either side neatly without loss of time or labor.

If the crop is still on, at the time of extracting, we return supers as fast as extracted. If there is no harvest, returning the super would cause too much of an uproar, and we pile them up in the honey-house till the end of the day, when all hands turn out and in less than a half-hour all the supers are put back on the hives. The excitement is great, for a little while, but as night approaches it soon subsides, and by morning everything is again quiet, for the honey has all been licked up and the cells in many cases have already assumed their cleanly appearance. The bees are indeed industrious little creatures, and never lose a minute to get things in ship-shape.

Some of the Swiss apiarists do not return the combs

to the bees at the end of the last extracting, but prefer to keep them until spring, when, they say, it gives the bees some encouragement to receive the supers still sticky with honey. I do not like this method. The supers are apt to leak more or less, owing to the few drops of honey left about the edges of the combs. Then, the moisture during rainy weather renders the honey watery and causes it to run. Sometimes, during the warm days of fall, the honey that remains and gathers moisture ferments and sours. There is great danger of some of this honey being retained and mixed with the honey of the new crop the following summer, and causing its fermentation. None of these accidents are to be feared if we return the combs to the bees immediately after extracting. The bees will at once gather up everything, and what honey is left will be put into compact shape so that there is no danger of its becoming watery and fermenting.

The supers of the June crop we usually leave on the hives until the fall crop is ended. The two crops are not equally productive, the clover crop being usually the best. But we have occasionally made our largest harvest out of the fall or summer crop. Sometimes the heartsease (or *Persicaria*) yields abundantly in August. Then comes the Spanish needles, especially in flat prairie meadows and stubble, or along the sloughs of the Mississippi. So the fall crop sometimes lasts a month, or a little longer—often till frost.

Hamilton, Ill.



Relation of Bees to Horticulture

Read before the Nebraska Bee-Keepers' Association by E. Kretschmer, of the Kretschmer Mfg. Co.

I SHALL not attempt to write an essay on bee culture, as more complete information on that subject may be obtained from text-books, but shall confine my remarks to the relation of bees to horticulture, and items not generally known, using only well-known information to explain my subject.

Nearly all flowers require fertilization through the medium of pollen from another flower of the same species, which is accomplished in various natural ways, some by gravity, in dropping from a higher elevation, some by the winds blowing the pollen from one flower to another. But such fertilization is only incidental, always uncertain, and imperfect.

An all-wise Creator placed nectar in nearly all flowers to entice the bees to them. He covered the body of the bees with fine hair and made their diet to consist of honey and pollen. To obtain this the bees visit the flowers to extract the nectar, and whilst doing so a single bee visits sometimes as many as 50 flowers before obtaining a load to carry to the hive. At each visit to the 50 or less of different flowers, the pollen of the various flowers becomes entangled in their hair-like covering, and in their effort to extract nectar from the next visited flower, a sufficient portion of the pollen obtained from a previously visited flower is dropped, and fertilization is thus effected. This adherence of the pollen to the hair-like covering of the bee is sometimes so complete as to change, for the time being, the color of the bee. The writer has seen bees, by nature black or brown, return to their hive colored orange, yellow, white or a mixture of these colors, so thoroughly were they covered with pollen. Not only does a bee visit a flower once, but hundreds may visit the same flower in a day, and for numbers of days in succession, and thus the most perfect fertilization is brought about.

In my earlier days, when I was as much of an enthusiastic horticulturist as an apiarist, I conducted many experiments, and made many observations, and found that during the blooming of fruit-trees, should the weather be too cool to permit the bees to fly, an imperfect fruit-crop was the result. Believing that the cool days might be the cause of the imperfect fruit, rather than the absence of the bees, I investigated a little further in the succeeding years, when the weather was pleasant for the bees to visit the flowers, by covering certain parts of blooming trees with wire-cloth or netting to exclude the bees, yet permit the free access of all pollen carried by the winds, and in every instance limbs and trees thus covered produced either no fruit or only a few small and imperfect specimens. After repeated experiments it is my candid opinion that without bees our fruit-crop would be reduced fully 90 per cent.

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Not only is this true of the fruit of the orchard, but likewise with berries and vegetables. As an example, let me cite the case of Senator Swink, of Colorado, who raises melons in fields miles in length. Years ago he was afraid of even the hum of the bee. His melons were raised in several separate fields, one of which was within reach of the bees of neighbors with whom he had several stormy arguments, saying the bees carried away all the substance from the blossoms, and crop failure would be the result. But to the surprise of all that particular field yielded over 200 percent more, and far better melons than any other field. Today he owns 1,500 colonies of bees, and during the Trans-Mississippi exposition he remarked that he would keep those bees if he did not get a pound of honey; for no bees means no melons.

The idea that the bees carry away the substance from the flowers entered the head of the owner of an orchard near Friend, Neb., I believe, and to prevent it, he sprayed during the blooming of the trees with paris-green, thus killing every bee that would alight on a blossom. It was effectual in preventing the bees from carrying away the substance from the apple-blossoms, and it was just as effective in depriving him of a crop of apples whilst his neighbor had an abundance.

Permit me to explain that I am not opposed to spraying—on the contrary, I spray my fruit-trees *just before the buds open, and then wait until the blossoms fall*. I thereby obtain all the benefits from spraying, and also the faithful service of the bees.

Of late the bees have been accused of being the common carrier to spread the pear-blight, but a Mr. Johnson, of Illinois, who, it is alleged, is also an enthusiastic pear-culturist, states that pear-trees in his orchard that did not bloom and numerous limbs covered with wire-netting and not visited by the bees were affected to the same extent as trees and limbs exposed to the bees. However eager as he was to think he had discovered a remedy by excluding the bees, he now says they have nothing to do with spreading pear-blight.

Bees have been accused of damaging peaches and grapes. Let us investigate the matter before giving full credit to the accusation. The tongue of a bee is as soft as a silken thread. Its mandibles are two soft, smooth lips; so the bee is, therefore, physically disqualified to break the skin of a grape or peach. Wasps have mandibles with hard teeth-like segments to enable them to cut wood into pulp for their nests. These wasps cut the fruit, or the fruit is bruised by the wind striking it against limbs or trellises, or bursts from being over-ripe. Then only have bees a chance to sip the escaping juices, and thereby prevent fermentation and such rot as might be caused from this source.

I have repeatedly dipped well-ripened Delaware grapes into honey and laid them out for the bees. They piled on them by the thousands, each one eager to get what was to be had. They licked the outside of the grapes dry, fighting each other like mad to get the last vestige from between the grapes, until compelled to go away unsatisfied. Yet at no time did they puncture a single berry.

Council Bluffs, Iowa.



Conducted by EMMA M. WILSON, Marengo, Ill.

Very Discouraging Prospect

If ever there is a time when a bee-keeper is warranted in being discouraged, it is when the time of harvest is fully come, and there is nothing doing. Here it is June 15, with white clover in full bloom, and bees doing nothing. There is a very discouraging prospect for a crop at present. Bees ought to be just hustling, but instead of their busy hum in the apiary there are only a few flying in a listless sort of discouraged way, some of them occupied in killing off their drones.

Brave Fight Against Swarming

Mrs. S. Wilbur Frey, who is making a brave—and let us hope a winning—fight against swarming, says in the Bee-Keepers' Review:

Swarming is the problem to solve when running for section honey.

Next spring I shall put supers on all my colonies just as soon as they are strong enough to take two 45-pound supers each. Then if they will swarm after this, I will take away their old queens. After all desire for swarming has passed, I will requeen again. I requeued 300 colonies last spring, while I prevented swarming, and think I did not lose a pound of honey by requeening. Some colonies sulked and would not work, and some used all their energy in rearing brood, but would not store any surplus. This year I shall try to head off the desire to swarm and sulk, and, at the same time, start all at work as fast as they can occupy 2 large supers. A super that holds less than 32 pounds is "no good" here—only to cause excessive swarming.

San Francisco and a Honey-Girl Student

It seems that the San Francisco earthquake is giving one of our young sisters in California a longer time to play with the bees this summer. Miss Flora McIntyre, daughter of the man who keeps 600 colonies in one apiary, and who is now taking a college course, writes:

I am enjoying an extra-long vacation this summer with the bees, because the big earthquake and fire sent the students all home some 3 weeks before we expected. I went across the bay to see the ruins of San Francisco before coming home. It makes one feel almost as though there were such a thing as magic, to see the busy, noisy city there on Tuesday, and on Saturday find it not there.

FLORA MCINTYRE.

Hygienic Honey-Soap in France

Savon Hygienique au Miel is advertised in Gazette Apicole de France. In plain English that means Hygienic Honey-Soap, and is no doubt the genuine article, for it seems to be prepared by the management of the bee-paper named. Honey-soap is not an uncommon thing in this country, but the honey is probably only in the name. No doubt honey in soap is a good thing for the skin, and with our improved laws, if the genuine article were put on the market it might not be difficult to prevent the use of the name with anything spurious.

Sisters Prominent in Irish Beedom

The sisters have quite a prominent place in the Irish Bee-Keepers' Association, as reported in the Irish Bee Journal. Two of its 6 vice-presidents are of the gentler sex; 2 of its 4 honorary secretaries; 1 of its certified experts; and 4 of its 9 life members.

Gooseberry-Honey Preserves

Use two parts gooseberry jelly to one of cheap honey. Boil on slow fire for half an hour. Skim off any froth. If carefully put up the jelly will keep fresh for a very long time.—British Bee Journal.

Honey for Burns

Children will probably always have the habit of burning fingers. Next time Johnny burns his finger, try dipping it in honey; or else tie on the finger a rag well saturated with honey.

Working On Asparagus

The bees seem to be paying a good deal of attention to asparagus, from which they get pollen of an orange color.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, \$1.00; or with the American Bee Journal one year—both for \$1.75. Address all orders to this office.

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Conducted by MORLEY PETTIT, Villa Nova, Ont.

The Bee's Acute Sense of Smell

(Concluded from page 359.)

This year M. Plateau finally undertook to destroy all objections regarding the more or less successful artificial reproduction of a natural flower by recourse to an extremely simple idea, which enabled him to conduct similar experiments by a most delicate and precise method. He told himself that the thing that most closely resembled natural flowers was the reflection of those flowers in a plate-glass mirror. Accordingly M. Plateau placed a mirror in front of a bouquet of honey-bearing flowers. If the bees were guided by the sense of sight, they would naturally go as eagerly to the perfect reflection of the flowers as to the flowers themselves. But the bees weren't fooled. Instead of bumping their heads against the mirror, as they do against the window-pane when they want to get out of a room, they flew straight to the flowers themselves, as if the mirror had not existed.

The general conclusion drawn from M. Plateau's researches is identical with that which I formulated 25 years ago; the insects are guided toward the honey-flowers by a sense quite different from that of sight—a sense that can be nothing but the sense of smell.

This is not saying that the bees are attracted to flowers by what we call their perfumes, for perfumed flowers are not richly provided with nectar, and fragrant essences seem generally without any noticeable effect upon the bees. It is not the sense of smell as we subjectively conceive it; it is a special sense, and a particularly subtle one, that enables them to know the whereabouts of the sweets they want.

Indeed, substances which we can't possibly recognize by their odor are still found by the bees. I have frequently repeated the following experiment: Lumps of ordinary sugar, which have no appreciable odor at a distance, were placed in a dark and carefully closed tent where there was neither honey nor anything with any pronounced smell, and where the bees were not accustomed to go. The next day, and even on the second day after, the bees succeeded in finding the lumps of sugar, and recognized that they were just what they had been looking for. Gnawing with the feeble mandibles at the hard lumps, they soon learned that this process was not a practicable way to get sugar, and they then went in search of water to dissolve it, and made it possible for them to pump up the sweet liquid thus produced.

RESULT NOT ASTOUNDING.

This result, by the way, was not so very astonishing when you observe how skilfully the bees find the places where their booty lies hidden. I shall not dwell further upon this question, for I prefer to come back to that of colors. And let me remark that certain isolated observations on that had been wrongly interpreted or too broadly generalized upon.

M. Motelay once saw a common white butterfly flutter down the street and halt before a shop window, where, for a quarter of an hour, he bumped against the glass. Now this shop belonged to a florist, and there were flowers in the windows; hence, M. Motelay concluded that the sight of the colored flowers attracted the butterfly—the sight of them and not their smell—for the insect was unable to find the open door of the shop where he might have noticed the fragrance of the flowers within. As this case has frequently been cited as typical, let us look at it rather closely. In the first place, if the conclusion were legitimate, we ought to see quantities of bees, butterflies and other honey-seeking insects swarming upon the glass-panes of all green-houses in which there are brilliantly colored flowers. Now, it is a matter of common observation that no such thing

occurs. On the other hand, that little white butterfly undoubtedly saw a reflection of himself in the glass, and any one who understands butterflies knows that they frequently flutter about before their reflected selves, taking them for one of their own kind which they seek to pursue—just as you often see butterflies flying about one another in the air.

An observation more to the point is this: M. Plateau noticed a white butterfly fluttering desperately against the shop window. If ever there was a chance to verify M. Motelay's observation now was the time, and accordingly M. Plateau looked for the flowers that had attracted the butterfly. The shop turned out to belong to a dealer in household utensils, and the flowers in the window were saucepans and teakettles.

INSECTS' BLUNDERS.

Insects are capable of many blunders, and frequently make mistakes when going from one blue flower to an analogous blue flower of the same type, but not the same species. Rev. M. Bevan and Miss Shuttleworth report that they have seen bees stupid enough to alight upon the flowers in wall-paper. To point out this fact to landlords would be enough to make them stop decorating their walls with flowered wall-paper, for if bees are going to take painted flowers for real ones, the landlords will have a hard time of it keeping their tenants.

The most curious of these exceptional facts brought forward in proof of a general fact which does not exist is that cited by Romanes. The naturalist Couch, whose name will be surely handed down to posterity in connection with this observation, saw (in a zoological laboratory, I suppose) a bee mistake an actinia—a polyp under water—for a submerged flower.

"The bee hurled herself toward the center of the living disk, and though she struggled to get free he was held fast until she was first drowned and then swallowed."

I can't make out what this observation proves beyond the fact that a bee seeking to get water, as bees so often do to dilute the honey of the hive for food for larvae, came woefully to grief, and at the moment when she thought to pump up her water supply she was swallowed by the polyp. This I freely admit, but as for attributing to that bee a sufficient degree of imbecility on account of its believing in a flower under water, ask any bee-keeper or lover of bees and see what they say!

WHY ARE FLOWERS COLORED?

Brushing aside these various isolated facts, let us return to the matter of the recent experiments conducted by Mlle. Wery, who says that the colors of flowers account for 80 percent of their attractiveness for the bees. A critical study of this work, and all others like it, as well as of the results of the experiments I have lately made, would overstep the limits of this article. What has already been said suffices, I think, to raise serious doubts of the theory which tells us, in the words of Sir John Lubbock, "It is to the bees that we owe the colors of our flowers and the fragrance of our fields."

Then why are flowers colored? Why not ask one's self with similar logic the source of that mysterious adaptation to which we owe the colors of rocks, precious stones and the sunset? Of course this question is neither a reply nor an objection. The advocates of Sprengel's theory have recently sought to reply in advance by enquiring: Why are mushrooms frequently garbed in rich colors? According to several authors convinced of the reciprocal adaptation of flowers and insects, edible mushrooms are colored so as to resemble the poisonous varieties and escape getting picked. "Cæsar's dainties," as M. Vuillemin says, "wear the colors of Locusta's poisons." But, then, you may just as well say that the poisonous mushrooms seek to resemble the edible ones in order to get picked.—Translated by the Boston Transcript.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for \$1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for \$1.80; the Appendix and the American Bee Journal a year in advance, \$1.00. Send all orders to the American Bee Journal office.



NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the National Bee-Keepers' Association, held in Chicago, Ill., Dec. 19, 20 and 21, 1905

(Continued from page 562.)

The Secretary then read a paper by James A. Green, of Colorado, on

PRODUCING BOTH COMB AND EXTRACTED HONEY ON THE SAME COLONY

Whether comb or extracted honey can be produced most profitably is a question that is often asked, and one that each man must settle for himself according to the conditions under which he must work. Having settled this, he is too apt to assume that he should confine himself entirely to the production of one or the other. We all know something of the advantages of specialty, and I would be one of the last to decry them. Yet I think that in many cases, at least, the bee-keeper is making a mistake in so deciding. The extracted-honey man is all right. He has no need to produce any comb honey, and in most cases, it will not pay him to do so.

With the comb-honey producer it is different. All practical comb-honey producers know that it is a difficult matter to get all colonies in such condition that they will enter the supers promptly at the beginning of the honey-flow. A colony that is in just the right condition will go into the sections with a rush and keep things moving right from the start. Another, apparently as strong in numbers, will hesitate about going into the super, and do nothing for some days except to crowd the brood-combs as full as possible of honey. This perhaps results in swarming, which in many localities and with some systems of management, effectually spoils the chances of any comb honey from that colony. In any case, the colony that started promptly in the super is pretty sure to have a great deal more honey to its credit than the one that is slow about starting, even when they are apparently equal in all other respects. It is exceedingly important that the bees form the habit as early as possible of storing their honey in the super.

Bee-keepers generally are in the habit of using "bait-combs" in the supers to secure this early start. But even a full super of drawn combs in sections is not as good for this purpose as a nice set of extracting combs.

For a number of years I have combined the production of extracted honey with that of comb. My extracting supers are only 6 inches deep with the frames at fixed distances, firmly held in place by a thumb-screw through the side of the hive, after the style of the Heddon hive. This makes them easily handled as a whole, and none of the frames are ever handled separately until they come to the extracting room.

One of these supers is placed on each colony at the beginning of the honey-flow. The bees enter this readily and if there is any surplus to be gathered, it goes into the super. After the bees are well at work in it, a super of sections is placed under it, after the usual tiering plan, or sometimes the extracting super is removed altogether and replaced by the super of sections. The combs thus removed are placed over the poorer working colonies. There will always be some colonies that will not do good work in the sections, because they are not strong enough in numbers, because they are not good comb-builders, or because they do not cap their honey with the nice white finish so necessary for a fancy article. On these colonies the extracting combs may be tiered up to any desired height and left to be finished, or until you are ready to extract the honey. This gives you the ability to use profitably those colonies that are not good for comb honey. In most apiaries there are bees that are not

fit for producing comb honey; simply because they fill the cells so full that their combs have a water-soaked appearance that detracts largely from its market value. These should be culled out, if comb honey is what you are trying to produce, and their queens superseded with better stock as soon as possible. In the meantime, they are just as good for extracted honey as any.

It takes a strong force of workers to work comb honey profitably. A colony that will do very fair work at storing honey in combs already built, may do little or nothing at building comb in a super. That foundation principle of bee-keeping, "Keep your colonies strong," applies with much greater force to colonies producing comb honey than to those run for extracting.

For this reason, I keep extracting combs on all colonies that are not yet strong enough for the profitable production of comb. When they have reached the point where they can build comb profitably, the extracting combs may be exchanged for sections. When a colony swarms or is divided, its comb supers go with the swarm, while a set of extracting combs is put on the old colony until it is in good working condition again. Any colony that at any time during the honey-flow is found to be doing poor work in the sections, has those sections promptly removed and replaced with extracting combs.

One of the greatest advantages of this combination system is seen at the end of the season. As the honey-flow draws to a close, instead of giving new sections that may never be completed, give extracted combs to the colonies that are doing the poorest work in the sections and give their sections to other colonies to complete. In this way you not only secure a larger amount of finished honey, but you avoid the expensive nuisance of having a lot of unfinished sections on your hands at the close of the season.

By working in this way I have sometimes had nearly every section in an apiary of over 100 colonies, run mostly for comb honey, finished up into marketable condition at the



JAMES A. GREEN

close of the season. Another important point to be considered is that in many localities, the last honey gathered is not fit to be put into sections, but can be much more profitably handled in the extracted form.

It will be seen that by this system there is considerable changing about of unfinished supers. Usually the supers are first freed of bees by the use of bee-escapes, but during the honey-flow I simply get out the greater part of the bees by smoking, and then shaking or "jouncing." The few bees that are left do no harm and are just as useful in one hive as another.

Of course a queen-excluding honey-board is a practical necessity with this system, but its advantages are so many and so great that I would not think of doing without it.

Several years ago I was much taken up with the idea that has been made public during the past season of using one or more extracting combs in each comb super, but I

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soon gave it up, as it seemed to me too fussy and complicated, and not nearly as well suited to practical work in a large apiary as separate supers, used according to the needs of the particular colony.

The system I have outlined has been in practical use in my apiaries for nearly twenty years. There are some small advantages that I have not mentioned, but briefly, the advantages of the system are that it secures more honey, a higher grade of comb honey, saves a great deal of waste, and does it with a control of the bees and an economy of labor that is not to be secured by any other method that I am familiar with.

JAMES A. GREEN.

Mr. Lyons—I think Mr. Green hit the nail on the head as far as the arrangement of his supers is concerned. I would like to hear some of the members tell their ideas with regard to the excluders.

Mr. Whitney—The method adopted by the gentleman who wrote the paper is identical with that which I use myself, excepting he used a half-frame for the extracting super instead of a whole Langstroth. To build up in the spring for the purpose of producing comb honey, I use the same method he does, and always have, and successfully.

Mr. Wilcox—Did you say you had made a success of both comb and extracted honey at the same time?

Mr. Whitney—As I understand the paper, he used some of those frames for extracted honey after taking off comb honey, by putting on some of the section frames. I do not produce comb honey and extracted honey on the same colony at the same time.

Mr. Stewart—I produce both extracted and comb honey on the same colony, at the same time, and very successfully, and I believe it is a good idea to do it. We all know that we can get the bees into extracting supers a great deal easier than into sections. We also know that at the close of the honey season it is the hardest work to get our comb-honey capped, and I use shallow extracting frames or extracting supers and comb-honey supers; the outsides of them are identical. My extracting frames are only $4\frac{1}{4}$ inches, and they are closed in. The way I do it is, I put a case of sections on those that I think are less apt to go promptly in the sections, and after they get nicely started to work I put a comb-honey super underneath them, and they work in both of them, finishing up the extracting super and going on with the comb-honey work.

What I am most interested in is something that I have not practiced at all, and it is in line with the paper that was read, and I will give you an explanation of an idea that I have: I will set up 100 colonies in the spring if I do not find some obstacle to it. I have the bee-space in the bottom instead of the top; and to produce comb and extracted honey in the same frame, my extracting frame is identical with 4 of the honey-sections. I will put one frame of comb on each side of each super, and I will fill in the inside of it with sections; and my idea is that they will start up more readily in this drawn comb; not only that, but when the weather is cold, or for any reason, they do better work in the inside than they do in the outside. My experience is, in grading honey that 80 percent or more of the culls and unfinished honey that does not come up to the grade is on the outside. If I can have the outsides for extracted honey, I have my cull honey all in the shape that I can extract it. The way I calculate to use the T's in my supers is this: I will make some T's that are shorter than these here, and my frames are made of $\frac{3}{8}$ -inch stuff all round. The ends are $\frac{3}{8}$ of an inch wider than the tops or bottoms. They are reversible, and instead of hanging at the top they rest upon a support at the end of the casing. Then the extracting frames fit in there very nicely. But the rub is to get the T-supers to fit your cases. The way I will do that is, I will make some T's, and then take a little piece of tin and have that soldered on so that it will project out $\frac{1}{4}$ of an inch further than at the top, at the apex of the T. That $\frac{1}{4}$ of an inch will just hook over the top of the bottom part, and the bottom of the T will be flush with the bottom of the extracting frame.

There is another obstacle to overcome in using separators. I use plain wooden separators, and in order to have everything just as it should be you must have a fence or cleats on the sides of your outside separators to hold them up to the sections; and if there are cleats placed on the outside you have a separator between your extracting frames and outside frames, and everything held up; and everything, as far as the comb-honey is concerned, is identical with what it should

be in the other case. The advantage is in starting bees earlier than you can in any other way; and not only that you do away with 75 percent of the culls. That I think is especially true in the after part of the season. In the early part, and in the midst of the honey-flow, I could not see any advantage in it at all, more than possibly it would give them a chance to start some more honey.

Mr. Wilcox—Do you continue using those outside frames through the season?

Mr. Stewart—I don't know. I would use them to start with and finish the season. Whether I would use them in the center of the honey-flow I am rather doubtful; I don't know.

Mr. Ferris—I can see a great future for the comb-honey producer in that line of thought. I believe there is something we would all do well to think upon, and put in practice. I believe we will find our culls will be lessened, and our first-class finished article be more, and still have our culls in an extracted form so that we can dispose of them.

Dr. Miller—There still remains the fact that some of us do not get any more unfinished sections than we want to start in with the next year.

Mr. Stewart—This applies to those that do get more than they want.

Mr. Ferris—To my mind we don't want any unfinished sections left over at all. I wonder how many of us have ever found as fine, first-class honey in the unfinished sections left over from the other year as those nice, new sections we put in this year? I never have; and this is to get rid of all the unfinished sections entirely, and yet have the extracting combs we can use in the commencement of the season, and still do the same work as we would otherwise with unfinished sections.

Mr. Whitney—It seems to me that if the extracting frames are put into a double-walled hive and then transferred to some other locality and the section-cases put in, the outside sections will be filled just as quickly by the bees in the center. That is the way I have produced comb honey, and without any danger of having a lot of culls on the outside. The bees gather right around the closed section, and cluster inside of the outside shell so as to cover those cases completely, and the outside sections are just as warm as the inside; and they fill them out just as quickly, and often commence capping first.

Mr. Holtermann—The objection which I have seen to the production of comb and extracted honey in the same hive is this: It requires a good deal of concentrated energy to produce good comb honey; and as far as skill and time are concerned it requires more careful and skillful application to produce comb honey than it does good extracted honey; and where you have a percentage of your extracting combs in that super you are really producing extracted honey at an increased expense compared with comb honey; and the more you produce the greater is the cost of producing that extracted honey. The question has been touched upon as to the unfinished sections on the outer sides of the hives. It has also been mentioned that it is not necessary to have these unfinished sections. That I am thoroughly satisfied is correct. I learned some years ago by putting in wedges between the bottom-board and the brood-chamber, the brood-chamber was practically raised an increase of $\frac{7}{8}$ of an inch from the bottom-board, and by that means the bees were compelled to go up at the side. By having a double bee-space at the sides, by careful experiment, I have found that the outside sections are in many cases even better filled than the center.

Some objected to the suggestion Dr. Miller threw out about cull sections, and an exception was taken by Mr. Ferris, which is perfectly right and legitimate. I have never seen a bait-section as well finished as a section built upon comb foundation. But on the other hand, I want to plead this, that for these bait-sections you can get a better price than you can get for honey after it has been extracted from those extracting frames. That is the reason I do not consider the system without its faults.

Mr. Wheeler—There is a point that has not been touched on, and that is the fact that when the bees have room to store extracted honey they stop the production of wax. To prove this, it is an easy matter to put on an extracting super when you take off the section-comb honey. Then after a few days put on a super of sections, and you almost invariably stop that colony of bees from working for comb

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honey. If you put into that hive some empty combs on the outside it has the same effect for the time being. The bees put honey into these empty cells and they stop the production of wax. I think it is a detriment rather than an advantage. I prefer to have every section filled, and then the bees are secreting wax.

Mr. Stewart—My experience is in working the brood in shallow supers, by getting the bees nicely started in the tops, and then putting on a case for comb honey and tiering up, it does not check them, and they will work in the sections below as if they had a case of sections above them. I don't think there is any difference. A person wants to use judgment as to when they shall put under that case of sections.

Mr. McEvoy—Now I think we can work this all right. We are going to work for both comb and extracted honey. This gentleman is going to put a frame for extracting and comb on the outside. That is all right. In the first place, fill those in between with foundation, and after they have extracted the first round the bees will brush up those dripping with honey, and they will pull those combs out between the sections very readily till I get them started. They are going to crowd the queen, and it is going to lead to a little early swarming. Now, I will head off the swarms and then take out the extracting frames and shove these others up. I will hang a separator back of the frame and crowd them up, and now they have gone to work in that, and I will secure a quantity of honey, and I will take more dollars out of it than on the other section. Try it, and you will find I am pretty near right on that. I have worked at that since 1882.

Mr. Wheeler—I would like to ask Mr. McEvoy—why, instead of putting in full sheets of foundation and making them build it out for extracted honey, he does not put in sections just as well?

Mr. McEvoy—If I said that, I made a mistake. This is nice white comb. I raise it up and I put under a super or half-story comb to keep them working there. The space which is between the bottom and the top is just the same as was talked of, only it is a narrow frame and they crowd up. Give it a trial. If you find the season coming to a close, you can take 2 or 3 and put them in the center in extracting, and put the extracting combs on each side. They will come out without any being unfinished.

Dr. Miller—Mr. McEvoy spoke of having nice white comb there, and that point must be emphasized. If some of you think you can take old black combs and put them in there you will find the black comb will be carried over to your sections.

Mr. McEvoy—You are right. It will spoil them.

Mr. Pettit—There is a point in the subject matter of this paper, which I think I heard emphasized, and that is this shallow extracting super. It is about the right quantity of space you want to put on in the spring for fruit-bloom. It takes up the dark fruit-bloom honey, and what dark fall honey there is to go up, and that goes up into these combs, and then the sections are put on afterwards, and they get the white honey. And there is another point, when they get to working in these combs you don't want to take them away just when you put on the foundation, because I find without using the extracting combs we don't want to have them start storing honey in the extracting combs, and then take these off and put on foundation, because that immediately makes them sulk, and swarm before they start on the sections.

(Continued next week.)

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for \$1.25; 250 for \$2.25; 500 for \$4.00; or 1,000 for \$7.50. Your business card printed free at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Successful and Easy Way to Work Up a Home Honey Market

In response to the call for experience in working up a home market, I will give mine.

I found there was a great deal of prejudice in my home town against extracted honey, the people thinking it was the old-fashioned "strained" honey. About every other lady I tried to sell honey to said, "Oh! I don't like strained honey. I want comb honey." I would then explain the difference between "strained" honey and extracted, and wind up by selling her half a gallon, or a gallon, of extracted honey, with the distinct understanding that if she did not like it, or it was not entirely satisfactory, she was to return what was left, after giving it a fair trial, and get all of her money back. I never had any returned.

But that was too slow—explaining to every other customer, so I wrote an article for the local paper, explaining the difference, and announced that at a certain time and place on the principal street I would give a free exhibition, showing the latest method of extracting, and the difference between extracted and "strained" honey.

When the time arrived I was there with the extractor and a lot of supers of honey, and a frame of brood for illustrating the old method of securing strained honey. I showed them that extracted honey was exactly the same thing as comb honey with the comb left out. I passed an empty comb around for them to taste, thus showing that the comb had no taste, and all the taste of comb honey was in the liquid honey contained in the comb.

"Seeing is believing," and I converted this whole town in 30 minutes. They bought all I extracted on the spot, and gave me orders for more. And never since that day have I had anybody tell me he liked comb honey and did not like extracted.

I still sell some comb honey to a few people who do not mind a little extra expense, but the great majority call for extracted honey.

Try it, fellow bee-keepers. Don't take it for granted that everybody else knows all you know about bees and honey.
H. D. MURRY.
Texas.



Send Questions either to the office of the American Bee Journal, or to Dr. C. C. MILLER, Marengo, Ill.
[X] Dr. Miller does not answer Questions by mail.

Queen-Experience—Getting Drones from a Distance

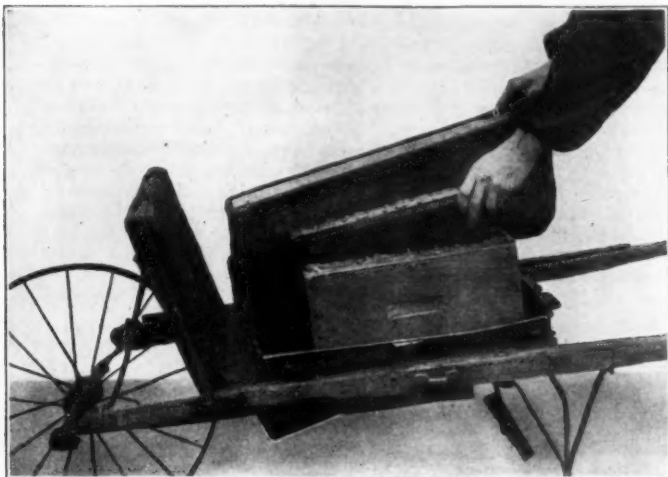
Last year I purchased 3 Italian queens to try to help a widow and her family get a start. They tried to winter them in the barn, but the result was that the stores were consumed or robbed out, and all the bees died but 1 colony. There were not enough bees to keep the brood warm. The queen was laying 2, and sometimes 3, eggs in one cell. When I noticed this I advised placing them in the house, with an exit of about 1 inch through the bottom of the window, bending a piece of sheet-iron to allow it to answer as a chute, and closing the balance of the window with a strip of board to prevent the wind from blowing in, and screening the remainder of the entrance to the hive, thereby allowing the warm air of the room to pass freely through the hive,

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crop from the hives to the extractor. For this purpose we use a wheelbarrow, on which the supers are placed.

On extracting days, the first thing our boys provide is a half-dozen brushes made of some green material, usually asparagus tops, and sometimes other weeds. Good brushes are sold in Europe, that are soft and efficient. I hope that brushes will be made here, sooner or later, that will be serviceable. Those now sold are either too firm or too irregular to give very good service. Some people use a goose wing or a turkey wing. These things are not good, for they anger the bees.

If the Porter bee-escape is used, no brushing will be needed, but we do not like to use the escape in very hot weather, as it closes the super entirely and excludes ventilation from it. In cool nights of summer or during the fall, the bee-escape is quite useful. We place them on the hives the previous evening. We have about 60 at each apiary,



WHEELBARROW DADANTS USE IN EXTRACTING.

and it is not a very long job to place them on. But when the out-apiary is far away, it requires going there one day ahead of time.

When the bee-escapes are not used, if the crop is at end, it is necessary to use a great deal of caution not to incite robbing. So we use what Dr. Miller calls the "robber-cloths," made strong gunny or sack cloth folded double and tacked at both ends between two slats, to make it easily movable. A shallow pan under the supers serves to catch the dripping honey in case the bees have built bridges and brace-combs. This happens only in very great years. Usually, the bridges and brace-combs are almost entirely beeswax and propolis, and do not contain any cells of honey. This is where a thick, wide top-bar shows its usefulness, for with a thin, narrow top-bar to the brood-frames we would find many more brace-combs.

When the honey is brought to the honey-room the combs are uncapped and the brace-combs scraped off at the same time from each of the frames, so that the frames are thus cleaned of any projections built by the bees, before they are returned. It is in the uncapping that we find the greatest advantage of the 6-inch extracting frame. A single stroke of the honey-knife will uncap either side neatly without loss of time or labor.

If the crop is still on, at the time of extracting, we return supers as fast as extracted. If there is no harvest, returning the super would cause too much of an uproar, and we pile them up in the honey-house till the end of the day, when all hands turn out and in less than a half-hour all the supers are put back on the hives. The excitement is great, for a little while, but as night approaches it soon subsides, and by morning everything is again quiet, for the honey has all been licked up and the cells in many cases have already assumed their cleanly appearance. The bees are indeed industrious little creatures, and never lose a minute to get things in ship-shape.

Some of the Swiss apiarists do not return the combs

to the bees at the end of the last extracting, but prefer to keep them until spring, when, they say, it gives the bees some encouragement to receive the supers still sticky with honey. I do not like this method. The supers are apt to leak more or less, owing to the few drops of honey left about the edges of the combs. Then, the moisture during rainy weather renders the honey watery and causes it to run. Sometimes, during the warm days of fall, the honey that remains and gathers moisture ferments and sours. There is great danger of some of this honey being retained and mixed with the honey of the new crop the following summer, and causing its fermentation. None of these accidents are to be feared if we return the combs to the bees immediately after extracting. The bees will at once gather up everything, and what honey is left will be put into compact shape so that there is no danger of its becoming watery and fermenting.

The supers of the June crop we usually leave on the hives until the fall crop is ended. The two crops are not equally productive, the clover crop being usually the best. But we have occasionally made our largest harvest out of the fall or summer crop. Sometimes the heartsease (or *Persicaria*) yields abundantly in August. Then comes the Spanish needles, especially in flat prairie meadows and stubble, or along the sloughs of the Mississippi. So the fall crop sometimes lasts a month, or a little longer—often till frost.

Hamilton, Ill.



Relation of Bees to Horticulture

Read before the Nebraska Bee-Keepers' Association by E. Kretchner, of the Kretchner Mfg. Co.

I SHALL not attempt to write an essay on bee culture, as more complete information on that subject may be obtained from text-books, but shall confine my remarks to the relation of bees to horticulture, and items not generally known, using only well-known information to explain my subject.

Nearly all flowers require fertilization through the medium of pollen from another flower of the same species, which is accomplished in various natural ways, some by gravity, in dropping from a higher elevation, some by the winds blowing the pollen from one flower to another. But such fertilization is only incidental, always uncertain, and imperfect.

An all-wise Creator placed nectar in nearly all flowers to entice the bees to them. He covered the body of the bees with fine hair and made their diet to consist of honey and pollen. To obtain this the bees visit the flowers to extract the nectar, and whilst doing so a single bee visits sometimes as many as 50 flowers before obtaining a load to carry to the hive. At each visit to the 50 or less of different flowers, the pollen of the various flowers becomes entangled in their hair-like covering, and in their effort to extract nectar from the next visited flower, a sufficient portion of the pollen obtained from a previously visited flower is dropped, and fertilization is thus effected. This adherence of the pollen to the hair-like covering of the bee is sometimes so complete as to change, for the time being, the color of the bee. The writer has seen bees, by nature black or brown, return to their hive colored orange, yellow, white or a mixture of these colors, so thoroughly were they covered with pollen. Not only does a bee visit a flower once, but hundreds may visit the same flower in a day, and for numbers of days in succession, and thus the most perfect fertilization is brought about.

In my earlier days, when I was as much of an enthusiastic horticulturist as an apiarist, I conducted many experiments, and made many observations, and found that during the blooming of fruit-trees, should the weather be too cool to permit the bees to fly, an imperfect fruit-crop was the result. Believing that the cool days might be the cause of the imperfect fruit, rather than the absence of the bees, I investigated a little further in the succeeding years, when the weather was pleasant for the bees to visit the flowers, by covering certain parts of blooming trees with wire-cloth or netting to exclude the bees, yet permit the free access of all pollen carried by the winds, and in every instance limbs and trees thus covered produced either no fruit or only a few small and imperfect specimens. After repeated experiments it is my candid opinion that without bees our fruit-crop would be reduced fully 90 per cent.

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Now is this true of the fruit of the orchard, but likewise with berries and vegetables. As an example, let me cite the case of Senator Swink, of Colorado, who raises melons in fields miles in length. Years ago he was afraid of even the hum of the bee. His melons were raised in several separate fields, one of which was within reach of the bees of neighbors with whom he had several stormy arguments, saying, the bees carried away all the substance from the blossoms, and crop failure would be the result. But to the surprise of all that particular field yielded over 200 percent more, and far better melons than any other field. Today he owns 1,500 colonies of bees, and during the Trans-Mississippi exposition he remarked that he would keep those bees if he did not get a pound of honey; for no bees means no melons.

The idea that the bees carry away the substance from the flowers entered the head of the owner of an orchard near Friend, Neb., I believe, and to prevent it, he sprayed during the blooming of the trees with paris-green, thus killing every bee that would alight on a blossom. It was effectual in preventing the bees from carrying away the substance from the apple-blossoms, and it was just as effective in depriving him of a crop of apples whilst his neighbor had an abundance.

Permit me to explain that I am not opposed to spraying—on the contrary, I spray my fruit-trees *just before the buds open, and then wait until the blossoms fall*. I thereby obtain all the benefits from spraying, and also the faithful service of the bees.

Of late the bees have been accused of being the common carrier to spread the pear-blight, but a Mr. Johnson, of Illinois, who, it is alleged, is also an enthusiastic pear-culturist, states that pear-trees in his orchard that did not bloom and numerous limbs covered with wire-netting and not visited by the bees were affected to the same extent as trees and limbs exposed to the bees. However eager as he was to think he had discovered a remedy by excluding the bees, he now says they have nothing to do with spreading pear-blight.

Bees have been accused of damaging peaches and grapes. Let us investigate the matter before giving full credit to the accusation. The tongue of a bee is as soft as a silken thread. Its mandibles are two soft, smooth lips; so the bee is, therefore, physically disqualified to break the skin of a grape or peach. Wasps have mandibles with hard teeth-like segments to enable them to cut wood into pulp for their nests. These wasps cut the fruit, or the fruit is bruised by the wind striking it against limbs or trellises, or bursts from being over-ripe. Then only have bees a chance to sip the escaping juices, and thereby prevent fermentation and such rot as might be caused from this source.

I have repeatedly dipped well-ripened Delaware grapes into honey and laid them out for the bees. They piled on them by the thousands, each one eager to get what was to be had. They licked the outside of the grapes dry, fighting each other like mad to get the last vestige from between the grapes, until compelled to go away unsatisfied. Yet at no time did they puncture a single berry.

Council Bluffs, Iowa.



Conducted by EMMA M. WILSON, Marengo, Ill.

Very Discouraging Prospect

If ever there is a time when a bee-keeper is warranted in being discouraged, it is when the time of harvest is fully come, and there is nothing doing. Here it is June 15, with white clover in full bloom, and bees doing nothing. There is a very discouraging prospect for a crop at present. Bees ought to be just hustling, but instead of their busy hum in the apiary there are only a few flying in a listless sort of discouraged way, some of them occupied in killing off their drones.

Brave Fight Against Swarming

Mrs. S. Wilbur Frey, who is making a brave—and let us hope a winning—fight against swarming, says in the Bee-Keepers' Review:

Swarming is the problem to solve when running for section honey. Next spring I shall put supers on all my colonies just as soon as they are strong enough to take two 45-pound supers each. Then if they will swarm after this, I will take away their old queens. After all desire for swarming has passed, I will requeen again. I requeened 300 colonies last spring, while I prevented swarming, and think I did not lose a pound of honey by requeening. Some colonies sulked and would not work, and some used all their energy in rearing brood, but would not store any surplus. This year I shall try to head off the desire to swarm and sulk, and, at the same time, start all at work as fast as they can occupy 2 large supers. A super that holds less than 32 pounds is "no good" here—only to cause excessive swarming.

San Francisco and a Honey-Girl Student

It seems that the San Francisco earthquake is giving one of our young sisters in California a longer time to play with the bees this summer. Miss Flora McIntyre, daughter of the man who keeps 600 colonies in one apiary, and who is now taking a college course, writes:

I am enjoying an extra-long vacation this summer with the bees, because the big earthquake and fire sent the students all home some 3 weeks before we expected. I went across the bay to see the ruins of San Francisco before coming home. It makes one feel almost as though there were such a thing as magic, to see the busy, noisy city there on Tuesday, and on Saturday find it not there.

FLORA MCINTYRE.

Hygienic Honey-Soap in France

Savon Hygienique au Miel is advertised in Gazette Apicole de France. In plain English that means Hygienic Honey-Soap, and is no doubt the genuine article, for it seems to be prepared by the management of the bee-paper named. Honey-soap is not an uncommon thing in this country, but the honey is probably only in the name. No doubt honey in soap is a good thing for the skin, and with our improved laws, if the genuine article were put on the market it might not be difficult to prevent the use of the name with anything spurious.

Sisters Prominent in Irish Beedom

The sisters have quite a prominent place in the Irish Bee-Keepers' Association, as reported in the Irish Bee Journal. Two of its 6 vice-presidents are of the gentler sex; 2 of its 4 honorary secretaries; 1 of its certified experts; and 4 of its 9 life members.

Gooseberry-Honey Preserves

Use two parts gooseberry jelly to one of cheap honey. Boil on slow fire for half an hour. Skim off any froth. If carefully put up the jelly will keep fresh for a very long time.—British Bee Journal.

Honey for Burns

Children will probably always have the habit of burning fingers. Next time Johnny burns his finger, try dipping it in honey; or else tie on the finger a rag well saturated with honey.

Working On Asparagus

The bees seem to be paying a good deal of attention to asparagus, from which they get pollen of an orange color.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, \$1.00; or with the American Bee Journal one year—both for \$1.75. Address all orders to this office.

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Conducted by MORLEY PETTIT, Villa Nova, Ont.

The Bee's Acute Sense of Smell

(Concluded from page 359.)

This year M. Plateau finally undertook to destroy all objections regarding the more or less successful artificial reproduction of a natural flower by recourse to an extremely simple idea, which enabled him to conduct similar experiments by a most delicate and precise method. He told himself that the thing that most closely resembled natural flowers was the reflection of those flowers in a plate-glass mirror. Accordingly M. Plateau placed a mirror in front of a bouquet of honey-bearing flowers. If the bees were guided by the sense of sight, they would naturally go as eagerly to the perfect reflection of the flowers as to the flowers themselves. But the bees weren't fooled. Instead of bumping their heads against the mirror, as they do against the window-pane when they want to get out of a room, they flew straight to the flowers themselves, as if the mirror had not existed.

The general conclusion drawn from M. Plateau's researches is identical with that which I formulated 25 years ago; the insects are guided toward the honey-flowers by a sense quite different from that of sight—a sense that can be nothing but the sense of smell.

This is not saying that the bees are attracted to flowers by what we call their perfumes, for perfumed flowers are not richly provided with nectar, and fragrant essences seem generally without any noticeable effect upon the bees. It is not the sense of smell as we subjectively conceive it; it is a special sense, and a particularly subtle one, that enables them to know the whereabouts of the sweets they want.

Indeed, substances which we can't possibly recognize by their odor are still found by the bees. I have frequently repeated the following experiment: Lumps of ordinary sugar, which have no appreciable odor at a distance, were placed in a dark and carefully closed tent where there was neither honey nor anything with any pronounced smell, and where the bees were not accustomed to go. The next day, and even on the second day after, the bees succeeded in finding the lumps of sugar, and recognized that they were just what they had been looking for. Gnawing with the feeble mandibles at the hard lumps, they soon learned that this process was not a practicable way to get sugar, and they then went in search of water to dissolve it, and made it possible for them to pump up the sweet liquid thus produced.

RESULT NOT ASTOUNDING.

This result, by the way, was not so very astonishing when you observe how skilfully the bees find the places where their booty lies hidden. I shall not dwell further upon this question, for I prefer to come back to that of colors. And let me remark that certain isolated observations on that had been wrongly interpreted or too broadly generalized upon.

M. Motelay once saw a common white butterfly flutter down the street and halt before a shop window, where, for a quarter of an hour, he bumped against the glass. Now this shop belonged to a florist, and there were flowers in the windows; hence, M. Motelay concluded that the sight of the colored flowers attracted the butterfly—the sight of them and not their smell—for the insect was unable to find the open door of the shop where he might have noticed the fragrance of the flowers within. As this case has frequently been cited as typical, let us look at it rather closely. In the first place, if the conclusion were legitimate, we ought to see quantities of bees, butterflies and other honey-seeking insects swarming upon the glass-panes of all green-houses in which there are brilliantly colored flowers. Now, it is a matter of common observation that no such thing

occurs. On the other hand, that little white butterfly undoubtedly saw a reflection of himself in the glass, and any one who understands butterflies knows that they frequently flutter about before their reflected selves, taking them for one of their own kind which they seek to pursue—just as you often see butterflies flying about one another in the air.

An observation more to the point is this: M. Plateau noticed a white butterfly fluttering desperately against the shop window. If ever there was a chance to verify M. Motelay's observation now was the time, and accordingly M. Plateau looked for the flowers that had attracted the butterfly. The shop turned out to belong to a dealer in household utensils, and the flowers in the window were saucepans and teakettles.

INSECTS' BLUNDERS.

Insects are capable of many blunders, and frequently make mistakes when going from one blue flower to an analogous blue flower of the same type, but not the same species. Rev. M. Bevan and Miss Shuttleworth report that they have seen bees stupid enough to alight upon the flowers in wall-paper. To point out this fact to landlords would be enough to make them stop decorating their walls with flowered wall-paper, for if bees are going to take painted flowers for real ones, the landlords will have a hard time of it keeping their tenants.

The most curious of these exceptional facts brought forward in proof of a general fact which does not exist is that cited by Romanes. The naturalist Couch, whose name will be surely handed down to posterity in connection with this observation, saw (in a zoological laboratory, I suppose) a bee mistake an actinia—a polyp under water—for a submerged flower.

"The bee hurled herself toward the center of the living disk, and though she struggled to get free he was held fast until she was first drowned and then swallowed."

I can't make out what this observation proves beyond the fact that a bee seeking to get water, as bees so often do to dilute the honey of the hive for food for larva, came woefully to grief, and at the moment when she thought to pump up her water supply she was swallowed by the polyp. This I freely admit, but as for attributing to that bee a sufficient degree of imbecility on account of its believing in a flower under water, ask any bee-keeper or lover of bees and see what they say!

WHY ARE FLOWERS COLORED?

Brushing aside these various isolated facts, let us return to the matter of the recent experiments conducted by Mlle. Wery, who says that the colors of flowers account for 80 percent of their attractiveness for the bees. A critical study of this work, and all others like it, as well as of the results of the experiments I have lately made, would overstep the limits of this article. What has already been said suffices, I think, to raise serious doubts of the theory which tells us, in the words of Sir John Lubbock, "It is to the bees that we owe the colors of our flowers and the fragrance of our fields."

Then why are flowers colored? Why not ask one's self with similar logic the source of that mysterious adaptation to which we owe the colors of rocks, precious stones and the sunset? Of course this question is neither a reply nor an objection. The advocates of Sprengel's theory have recently sought to reply in advance by enquiring: Why are mushrooms frequently garbed in rich colors? According to several authors convinced of the reciprocal adaptation of flowers and insects, edible mushrooms are colored so as to resemble the poisonous varieties and escape getting picked. "Caesar's dainties," as M. Vuillemin says, "wear the colors of Locusta's poisons." But, then, you may just as well say that the poisonous mushrooms seek to resemble the edible ones in order to get picked.—Translated by the Boston Transcript.

Appendix to Dr. Miller's "Forty Years."—All who have the first edition of "Forty Years Among the Bees" should also have the Appendix which appears in the new edition, issued recently. The complete new 344-page book, bound in cloth, is sent postpaid for \$1.00; the Appendix alone for 10 cents. Or, the book and the American Bee Journal a year—both for \$1.80; the Appendix and the American Bee Journal a year in advance, \$1.00. Send all orders to the American Bee Journal office.



NATIONAL AT CHICAGO

Report of the 36th Annual Convention of the
National Bee-Keepers' Association, held in
Chicago, Ill., Dec. 19, 20 and 21, 1905

(Continued from page 562.)

The Secretary then read a paper by James A. Green, of Colorado, on

PRODUCING BOTH COMB AND EXTRACTED HONEY ON THE SAME COLONY

Whether comb or extracted honey can be produced most profitably is a question that is often asked, and one that each man must settle for himself according to the conditions under which he must work. Having settled this, he is too apt to assume that he should confine himself entirely to the production of one or the other. We all know something of the advantages of specialty, and I would be one of the last to decry them. Yet I think that in many cases, at least, the bee-keeper is making a mistake in so deciding. The extracted-honey man is all right. He has no need to produce any comb honey, and in most cases, it will not pay him to do so.

With the comb-honey producer it is different. All practical comb-honey producers know that it is a difficult matter to get all colonies in such condition that they will enter the supers promptly at the beginning of the honey-flow. A colony that is in just the right condition will go into the sections with a rush and keep things moving right from the start. Another, apparently as strong in numbers, will hesitate about going into the super, and do nothing for some days except to crowd the brood-combs as full as possible of honey. This perhaps results in swarming, which in many localities and with some systems of management, effectually spoils the chances of any comb honey from that colony. In any case, the colony that started promptly in the super is pretty sure to have a great deal more honey to its credit than the one that is slow about starting, even when they are apparently equal in all other respects. It is exceedingly important that the bees form the habit as early as possible of storing their honey in the super.

Bee-keepers generally are in the habit of using "bait-combs" in the supers to secure this early start. But even a full super of drawn combs in sections is not as good for this purpose as a nice set of extracting combs.

For a number of years I have combined the production of extracted honey with that of comb. My extracting supers are only 6 inches deep with the frames at fixed distances, firmly held in place by a thumb-screw through the side of the hive, after the style of the Heddon hive. This makes them easily handled as a whole, and none of the frames are ever handled separately until they come to the extracting room.

One of these supers is placed on each colony at the beginning of the honey-flow. The bees enter this readily and if there is any surplus to be gathered, it goes into the super. After the bees are well at work in it, a super of sections is placed under it, after the usual tiering plan, or sometimes the extracting super is removed altogether and replaced by the super of sections. The combs thus removed are placed over the poorer working colonies. There will always be some colonies that will not do good work in the sections, because they are not strong enough in numbers, because they are not good comb-builders, or because they do not cap their honey with the nice white finish so necessary for a fancy article. On these colonies the extracting combs may be tiered up to any desired height and left to be finished, or until you are ready to extract the honey. This gives you the ability to use profitably those colonies that are not good for comb honey. In most apiaries there are bees that are not

fit for producing comb honey; simply because they fill the cells so full that their combs have a water-soaked appearance that detracts largely from its market value. These should be culled out, if comb honey is what you are trying to produce, and their queens superseded with better stock as soon as possible. In the meantime, they are just as good for extracted honey as any.

It takes a strong force of workers to work comb honey profitably. A colony that will do very fair work at storing honey in combs already built, may do little or nothing at building comb in a super. That foundation principle of bee-keeping, "Keep your colonies strong," applies with much greater force to colonies producing comb honey than to those run for extracting.

For this reason, I keep extracting combs on all colonies that are not yet strong enough for the profitable production of comb. When they have reached the point where they can build comb profitably, the extracting combs may be exchanged for sections. When a colony swarms or is divided, its comb supers go with the swarm, while a set of extracting combs is put on the old colony until it is in good working condition again. Any colony that at any time during the honey-flow is found to be doing poor work in the sections, has those sections promptly removed and replaced with extracting combs.

One of the greatest advantages of this combination system is seen at the end of the season. As the honey-flow draws to a close, instead of giving new sections that may never be completed, give extracted combs to the colonies that are doing the poorest work in the sections and give their sections to other colonies to complete. In this way you not only secure a larger amount of finished honey, but you avoid the expensive nuisance of having a lot of unfinished sections on your hands at the close of the season.

By working in this way I have sometimes had nearly every section in an apiary of over 100 colonies, run mostly for comb honey, finished up into marketable condition at the



JAMES A. GREEN

close of the season. Another important point to be considered is that in many localities, the last honey gathered is not fit to be put into sections, but can be much more profitably handled in the extracted form.

It will be seen that by this system there is considerable changing about of unfinished supers. Usually the supers are first freed of bees by the use of bee-escapes, but during the honey-flow I simply get out the greater part of the bees by smoking, and then shaking or "jouncing." The few bees that are left do no harm and are just as useful in one hive as another.

Of course a queen-excluding honey-board is a practical necessity with this system, but its advantages are so many and so great that I would not think of doing without it.

Several years ago I was much taken up with the idea that has been made public during the past season of using one or more extracting combs in each comb super, but I

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soon gave it up, as it seemed to me too fussy and complicated, and not nearly as well suited to practical work in a large apiary as separate supers, used according to the needs of the particular colony.

The system I have outlined has been in practical use in my apiaries for nearly twenty years. There are some small advantages that I have not mentioned, but briefly, the advantages of the system are that it secures more honey, a higher grade of comb honey, saves a great deal of waste, and does it with a control of the bees and an economy of labor that is not to be secured by any other method that I am familiar with.

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Mr. Lyons—I think Mr. Green hit the nail on the head as far as the arrangement of his supers is concerned. I would like to hear some of the members tell their ideas with regard to the excluders.

Mr. Whitney—The method adopted by the gentleman who wrote the paper is identical with that which I use myself, excepting he used a half-frame for the extracting super instead of a whole Langstroth. To build up in the spring for the purpose of producing comb honey, I use the same method he does, and always have, and successfully.

Mr. Wilcox—Did you say you had made a success of both comb and extracted honey at the same time?

Mr. Whitney—As I understand the paper, he used some of those frames for extracted honey after taking off comb honey, by putting on some of the section frames. I do not produce comb honey and extracted honey on the same colony at the same time.

Mr. Stewart—I produce both extracted and comb honey on the same colony, at the same time, and very successfully, and I believe it is a good idea to do it. We all know that we can get the bees into extracting supers a great deal easier than into sections. We also know that at the close of the honey season it is the hardest work to get our comb-honey capped, and I use shallow extracting frames or extracting supers and comb-honey supers; the outsides of them are identical. My extracting frames are only $4\frac{1}{4}$ inches, and they are closed in. The way I do it is, I put a case of sections on those that I think are less apt to go promptly in the sections, and after they get nicely started to work I put a comb-honey super underneath them, and they work in both of them, finishing up the extracting super and going on with the comb-honey work.

What I am most interested in is something that I have not practiced at all, and it is in line with the paper that was read, and I will give you an explanation of an idea that I have: I will set up 100 colonies in the spring if I do not find some obstacle to it. I have the bee-space in the bottom instead of the top; and to produce comb and extracted honey in the same frame, my extracting frame is identical with 4 of the honey-sections. I will put one frame of comb on each side of each super, and I will fill in the inside of it with sections; and my idea is that they will start up more readily in this drawn comb; not only that, but when the weather is cold, or for any reason, they do better work in the inside than they do in the outside. My experience is, in grading honey that 80 percent or more of the culls and unfinished honey that does not come up to the grade is on the outside. If I can have the outsides for extracted honey, I have my cull honey all in the shape that I can extract it. The way I calculate to use the T's in my supers is this: I will make some T's that are shorter than these here, and my frames are made of $\frac{3}{8}$ -inch stuff all round. The ends are $\frac{3}{8}$ of an inch wider than the tops or bottoms. They are reversible, and instead of hanging at the top they rest upon a support at the end of the casing. Then the extracting frames fit in there very nicely. But the rub is to get the T-supers to fit your cases. The way I will do that is, I will make some T's, and then take a little piece of tin and have that soldered on so that it will project out $\frac{1}{4}$ of an inch further than at the top, at the apex of the T. That $\frac{1}{4}$ of an inch will just hook over the top of the bottom part, and the bottom of the T will be flush with the bottom of the extracting frame.

There is another obstacle to overcome in using separators. I use plain wooden separators, and in order to have everything just as it should be you must have a fence or cleats on the sides of your outside separators to hold them up to the sections; and if there are cleats placed on the outside you have a separator between your extracting frames and outside frames, and everything held up; and everything, as far as the comb-honey is concerned, is identical with what it should

be in the other case. The advantage is in starting bees earlier than you can in any other way; and not only that you do away with 75 percent of the culls. That I think is especially true in the after part of the season. In the early part, and in the midst of the honey-flow, I could not see any advantage in it at all, more than possibly it would give them a chance to start some more honey.

Mr. Wilcox—Do you continue using those outside frames through the season?

Mr. Stewart—I don't know. I would use them to start with and finish the season. Whether I would use them in the center of the honey-flow I am rather doubtful; I don't know.

Mr. Ferris—I can see a great future for the comb-honey producer in that line of thought. I believe there is something we would all do well to think upon, and put in practice. I believe we will find our culls will be lessened, and our first-class finished article be more, and still have our culls in an extracted form so that we can dispose of them.

Dr. Miller—There still remains the fact that some of us do not get any more unfinished sections than we want to start in with the next year.

Mr. Stewart—This applies to those that do get more than they want.

Mr. Ferris—To my mind we don't want any unfinished sections left over at all. I wonder how many of us have ever found as fine, first-class honey in the unfinished sections left over from the other year as those nice, new sections we put in this year? I never have; and this is to get rid of all the unfinished sections entirely, and yet have the extracting combs we can use in the commencement of the season, and still do the same work as we would otherwise with unfinished sections.

Mr. Whitney—It seems to me that if the extracting frames are put into a double-walled hive and then transferred to some other locality and the section-cases put in, the outside sections will be filled just as quickly by the bees in the center. That is the way I have produced comb honey, and without any danger of having a lot of culls on the outside. The bees gather right around the closed section, and cluster inside of the outside shell so as to cover those cases completely, and the outside sections are just as warm as the inside; and they fill them out just as quickly, and often commence capping first.

Mr. Holtermann—The objection which I have seen to the production of comb and extracted honey in the same hive is this: It requires a good deal of concentrated energy to produce good comb honey; and as far as skill and time are concerned it requires more careful and skillful application to produce comb honey than it does good extracted honey; and where you have a percentage of your extracting combs in that super you are really producing extracted honey at an increased expense compared with comb honey; and the more you produce the greater is the cost of producing that extracted honey. The question has been touched upon as to the unfinished sections on the outer sides of the hives. It has also been mentioned that it is not necessary to have these unfinished sections. That I am thoroughly satisfied is correct. I learned some years ago by putting in wedges between the bottom-board and the brood-chamber, the brood-chamber was practically raised an increase of $\frac{7}{8}$ of an inch from the bottom-board, and by that means the bees were compelled to go up at the side. By having a double bee-space at the sides, by careful experiment, I have found that the outside sections are in many cases even better filled than the center.

Some objected to the suggestion Dr. Miller threw out about cull sections, and an exception was taken by Mr. Ferris, which is perfectly right and legitimate. I have never seen a bait-section as well finished as a section built upon comb foundation. But on the other hand, I want to plead this, that for these bait-sections you can get a better price than you can get for honey after it has been extracted from those extracting frames. That is the reason I do not consider the system without its faults.

Mr. Wheeler—There is a point that has not been touched on, and that is the fact that when the bees have room to store extracted honey they stop the production of wax. To prove this, it is an easy matter to put on an extracting super when you take off the section-comb honey. Then after a few days put on a super of sections, and you almost invariably stop that colony of bees from working for comb

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honey. If you put into that hive some empty combs on the outside it has the same effect for the time being. The bees put honey into these empty cells and they stop the production of wax. I think it is a detriment rather than an advantage. I prefer to have every section filled, and then the bees are secreting wax.

Mr. Stewart—My experience is in working the brood in shallow supers, by getting the bees nicely started in the tops, and then putting on a case for comb honey and tiering up, it does not check them, and they will work in the sections below as if they had a case of sections above them. I don't think there is any difference. A person wants to use judgment as to when they shall put under that case of sections.

Mr. McEvoy—Now I think we can work this all right. We are going to work for both comb and extracted honey. This gentleman is going to put a frame for extracting and comb on the outside. That is all right. In the first place, fill those in between with foundation, and after they have extracted the first round the bees will brush up those dripping with honey, and they will pull those combs out between the sections very readily till I get them started. They are going to crowd the queen, and it is going to lead to a little early swarming. Now, I will head off the swarms and then take out the extracting frames and shove these others up. I will hang a separator back of the frame and crowd them up, and now they have gone to work in that, and I will secure a quantity of honey, and I will take more dollars out of it than on the other section. Try it, and you will find I am pretty near right on that. I have worked at that since 1882.

Mr. Wheeler—I would like to ask Mr. McEvoy—why, instead of putting in full sheets of foundation and making them build it out for extracted honey, he does not put in sections just as well?

Mr. McEvoy—If I said that, I made a mistake. This is nice white comb. I raise it up and I put under a super or half-story comb to keep them working there. The space which is between the bottom and the top is just the same as was talked of, only it is a narrow frame and they crowd up. Give it a trial. If you find the season coming to a close, you can take 2 or 3 and put them in the center in extracting, and put the extracting combs on each side. They will come out without any being unfinished.

Dr. Miller—Mr. McEvoy spoke of having nice white comb there, and that point must be emphasized. If some of you think you can take old black combs and put them in there you will find the black comb will be carried over to your sections.

Mr. McEvoy—You are right. It will spoil them.

Mr. Pettit—There is a point in the subject matter of this paper, which I think I heard emphasized, and that is this shallow extracting super. It is about the right quantity of space you want to put on in the spring for fruit-bloom. It takes up the dark fruit-bloom honey, and what dark fall honey there is to go up, and that goes up into these combs, and then the sections are put on afterwards, and they get the white honey. And there is another point, when they get to working in these combs you don't want to take them away just when you put on the foundation, because I find without using the extracting combs we don't want to have them start storing honey in the extracting combs, and then take these off and put on foundation, because that immediately makes them sulk, and swarm before they start on the sections.

(Continued next week.)

Honey as a Health-Food.—This is a 16-page honey-pamphlet intended to help increase the demand for honey. The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last part is devoted to "Honey-Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey, the more honey they will buy.

Prices, prepaid—Sample copy for a two-cent stamp; 50 copies for 70 cts.; 100 for \$1.25; 250 for \$2.25; 500 for \$4.00; or 1,000 for \$7.50. Your business card printed free at the bottom of front page on all orders for 100 or more copies. Send all orders to the office of the American Bee Journal.



Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Successful and Easy Way to Work Up a Home Honey Market

In response to the call for experience in working up a home market, I will give mine.

I found there was a great deal of prejudice in my home town against extracted honey, the people thinking it was the old-fashioned "strained" honey. About every other lady I tried to sell honey to said, "Oh! I don't like strained honey. I want comb honey." I would then explain the difference between "strained" honey and extracted, and wind up by selling her half a gallon, or a gallon, of extracted honey, with the distinct understanding that if she did not like it, or it was not entirely satisfactory, she was to return what was left, after giving it a fair trial, and get all of her money back. I never had any returned.

But that was too slow—explaining to every other customer, so I wrote an article for the local paper, explaining the difference, and announced that at a certain time and place on the principal street I would give a free exhibition, showing the latest method of extracting, and the difference between extracted and "strained" honey.

When the time arrived I was there with the extractor and a lot of supers of honey, and a frame of brood for illustrating the old method of securing strained honey. I showed them that extracted honey was exactly the same thing as comb honey with the comb left out. I passed an empty comb around for them to taste, thus showing that the comb had no taste, and all the taste of comb honey was in the liquid honey contained in the comb.

"Seeing is believing," and I converted this whole town in 30 minutes. They bought all I extracted on the spot, and gave me orders for more. And never since that day have I had anybody tell me he liked comb honey and did not like extracted.

I still sell some comb honey to a few people who do not mind a little extra expense, but the great majority call for extracted honey.

Try it, fellow bee-keepers. Don't take it for granted that everybody else knows all you know about bees and honey.

H. D. MURRY.
Texas.



Send Questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.
Dr. Miller does not answer Questions by mail.

Queen-Experience—Getting Drones from a Distance

Last year I purchased 3 Italian queens to try to help a widow and her family get a start. They tried to winter them in the barn, but the result was that the stores were consumed or robbed out, and all the bees died but 1 colony. There were not enough bees to keep the brood warm. The queen was laying 2, and sometimes 3, eggs in one cell. When I noticed this I advised placing them in the house, with an exit of about 1 inch through the bottom of the window, bending a piece of sheet-iron to allow it to answer as a chute, and closing the balance of the window with a strip of board to prevent the wind from blowing in, and screening the remainder of the entrance to the hive, thereby allowing the warm air of the room to pass freely through the hive,

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which resulted in a rapid increase of larvæ, so that feeding had to be resorted to as the stores were found to be very short.

House-cleaning time came, and, of course, the bees must go outdoors. In that move the bees became divided, and would not unite without fighting. They called my attention to the condition, and as it was some hours after the hive had been removed, and many of the workers were flying all around and through the house, I took 3 of the heaviest brood-frames, brushed the bees off and placed them in a new hive with other drawn comb, and placed this hive in the window, and 20 minutes later everything was quiet, and the bees were working nicely in both hives. A few days later I found only 1 queen-cell. I gave another frame of brood, and 10 days later found 4 more fine queen-cells ready to cap, and one queen possibly 2 hours old. Then I removed the hive, jostling it much as I removed it from the window, giving it as much jolting as I thought the comb could stand and not tear. Then I took the frames out that had queen-cells, with adhering bees, and placed them in another hive, leaving the young queen in possession of hive No. 2. Then, about the time the queen would be likely to fly it began to rain, and turned cold. Five days later I found the young queen gone, so I decided she had been lost on her wedding-trip, because of rain and cold, or some other cause unknown to us. A careful examination revealed the fact, also, that there was not even as much as one drone in any of the hives. Now, with nice queen-cells ready to hatch, and no drones, what am I to do for these people? There are black bees in the neighborhood, and if we have no drones for our young queens to mate with, will they not find a black, or possibly, at best, a hybrid drone, producing a cross of inferior stock?

I have placed a frame of drone-comb in the center of the brood-nest early this spring. The first time I did that the bees took out the eggs the queen laid in it, and filled the frame with honey. I changed it before the honey was capped, and placed another frame of drone-comb in its place; but even if they allow it to be filled with eggs, the drones will be too young to be of any practical good until very late in the season, if I am not wrong in my opinion as to the age a drone must be to fly well. Or could I get a few drones from a distance? What are they worth? and would they do us any good?

Can a queen be kept confined and allowed to fly only in a wire-cage (say 2 feet square), and be expected to mate with a drone therein, or must she have the freedom of the open field for her wedding-trip?

ANSWER.—It would hardly do any good to try to get drones from elsewhere. The journey would be hard on them, and even if they should be in best condition they would not be likely to stand much show against the drones of the neighborhood. You may count quite certainly that your virgins will meet drones from some of the colonies within a range of 2 miles or less, and having pure drones of your own would not lessen greatly the probability unless in great numbers. By this time there will be no scarcity of drones in the surrounding neighborhood. Mating queens in confinement is not a success yet.

Preventing Increase—Putting Weak Colonies Over the Strong

1. Will giving an empty story below a queen-excluder do for section honey, to prevent increase?

2. E. W. Alexander says, in the Bee-Keepers' Review, that "those colonies that are weak in bees yet have a good queen I mark, and as soon as they have larvæ, which is usually in about 5 days after setting out, each is taken to a good, strong colony and given a frame from the strong colony so as to keep the bees from leaving their queen and all going below. I close all the entrances except that of the strong colony. The bees will divide themselves about equally between the two queens, and in about 4 or 5 weeks I can separate them, and in 9 times out of 10 I have 2 good, strong colonies. For 20 years I have treated all my weak colonies in this way in early spring. Sometimes I have had 100 weak colonies on top of strong ones. Don't keep them together too long, as the young bees, when over 2 weeks old, are liable to sting one of the queens." Now, is Mr. Alexander not mistaken as to the young bees stinging the queen? Don't the queens fight each other? This can be prevented by putting 2 queen-excluders on top, or between the weak and the strong colonies so the queens can not reach each other. I will try this next year. This is what troubles me the worst, to keep the queen living in this weak colony and breed up. A queen I got last year is a dandy. She had 4 brood early this spring, and the hive is now full of sealed brood and bees. I put an empty story on top. I am going to try Mr. Doolittle's plan on one hive this year, and take the brood and make nuclei of it, and save the young queens.

3. Is this all right, or do you know of a better plan to get the most honey and save the queens, too?

MINNESOTA.

ANSWERS.—1. You probably refer to the G. W. Demaree plan, which is to put an empty story on the bottom-board, and on that the old hive with its contents, an excluder being put between the 2 stories. In 3 weeks' time all the brood in the upper story will have emerged, and it will be an extracting super. Of course, that would hardly do for section honey. But in "Forty Years Among the Bees" will be found a plan somewhat after the same order that is all right for section honey. It is called the foundation plan of treatment, and is given as follows:

"We find and cage the queen, destroy all queen-cells, remove the hive from its stand, and put in its place a hive containing 3 or 4 frames of foundation. The foundation is on one side of the hive, with a dummy next to it. The rest of the hive is left vacant. Upon this hive is put a queen-excluder, and over the excluder the old hive with

its brood and bees, and over this the supers as before. Then the queen is run in at the entrance of the lower hive, and the colony is left for a week or 10 days. At the end of the week, or as soon after that time as we can conveniently reach it, we take away the lower story with its excluder, and put back the queen in the old hive, which is left on the stand."

2. Your idea seems to be that when there is only one excluder, one of the queens stings the other through the excluder. I wouldn't like to be too sure about it, but I very much doubt that one queen can sting another through an excluder.

3. You will likely find it works all right.

Rearing Queens in a Poor Honey-Season

I am trying to rear queens, but we have had a poor season so far. The bees take the eggs out of the cups as fast as I can put them in. I can't think what is the matter, as the colony is queenless. I have been following the directions given in Pratt's queen-book.

WISCONSIN.

ANSWER.—If the season is as poor with you as it is here, I don't wonder at your experience. Feed your colony a little daily, so as to make them think a harvest is on, and they will be more ready to start queen-cells.

Is "Honey-Dew" Pure Honey?

As the bees are gathering and storing away a great amount of honey-dew this spring, and as there seems to be some difference in opinion in regard to what is meant by the term "Pure Honey," do we mean to say that only the sweet of flowers gathered by the bees is pure? or do we accept the theory that all sweets gathered from plants are pure? If we stamp all honey as not pure which is not gathered from flowers, we necessarily then have classed honey-dew as impure, whether it is produced from the aphides and is a production of plant-life, or falls as a manna from heaven—we believe it just as pure as white clover, alfalfa, or any of the best grades of honey that are produced by bees. It is true that it is an inferior grade, but quality is not to be reckoned with purity. Is not white clover superior to buckwheat honey? and are there not flowers at times which produce honey that is not conducive to good health? Why, then, class honey-dew as impure because it is not gathered from flowers? What is meant by "impure honey?" Is it honey that has been adulterated and doctored by men, therefore a mixture and impure?

J. W. F.

ANSWER.—Your views are quite correct, unless it be with regard to honey-dew falling like manna from heaven. It is now generally conceded that it never falls anywhere except where there is something above in the form of a tree for it to fall from.

Dividing Colonies for Increase

1. When dividing bees at this time of the year, would it do to set the colony, or half containing the old queen, on a new stand and stop up the entrance with green leaves, or place screen-wire over the entrance to confine the bees for a few days so the working force will not return to the old stand?

2. Would the bees be likely to smother if confined in this way?

3. The real trouble with me in dividing for increase is the working force leaving the old queen which I place on a new stand and return to the old stand, so that we get no work from the old colony with the queen for a week or two. Can you give me a better plan for dividing?

MISSOURI.

ANSWER.—If I understand you correctly, you want to take half the colony, with the queen, and put it on a new stand, and your problem is to make the older bees, or the field-bees, willing to stay there. Confining them for 2 or 3 days would accomplish that end, but there is danger that a good many bees would worry themselves to death. Such a plan is all right for a nucleus of one or two frames, but half a colony would be too much crowded and heated. But you can make that all right by putting them in a cool and dark cellar during the time of their imprisonment.

I could tell better as to the advisability of your plan if I knew just what you intended to do with the half left on the old stand. In any case, you will likely get more honey, and perhaps more satisfaction in every way, to proceed thus: Set the old hive with all its contents on a new stand, taking from it one frame with queen and adhering bees, which you will put in a new hive on the old stand. A week later shake a lot of the bees, perhaps half of them, from the old hive into the new. Of course a queen-cell or a queen is to be given to the queenless bees on the new stand within 2 or 3 days of moving them. The object of waiting a week before shaking the bees into the new hive is to allow plenty of bees in the old hive till all the young brood and eggs are out of danger.

Please Send Us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this Journal. You can aid much by sending in the names and addresses when writing us on other matters.

American Bee Journal

Reports and Experiences

If Wet Enough, Good Prospects.

My wife's folks packed 7 colonies of bees last fall with leaves, putting the bees in outside cases, and 4 of the 7 were so light of honey, and the winter being so open, only 5 were alive in February. They wanted to go out of the bee-business, as they were not able to care for the bees longer, so they made me a present of the 7 colonies, and all the extra supplies at Christmas time. Only 3 colonies came through alive till March, and I shipped them 75 miles here, and all 3 arrived here all right, but one was so weak that robber-bees robbed them, while I was away from home a few days; and that left me only 2 colonies.

One of my parishioners at Argyle gave me a swarm of the common black bees, and I transferred them from the old cracker-box they were in into a Langstroth hive, and they are doing well. I have only the 3 colonies of my own at present, but have 8 empty 8-frame Langstroth hives, and am taking care of Rev. Hooper's apiary of 42 colonies, and get half the new swarms. We have not had a new swarm yet, but the bees are working in the supers quite well, and when we do get swarms they will be large ones. I will keep my 3 colonies from swarming. We are working for comb honey altogether. The loss of bees last winter was about 25 percent in this locality. The raspberry is in full bloom now, white clover is just commencing to yield some honey, and the bees have been doing good work the last few days. If it continues wet enough, the prospect is good for a fair flow of honey from white clover.

J. W. STINE.

Mr. Pleasant, Iowa, May 30.

Non-Swarming Brown or German Bees—Transferring Larvae with a Medicine Dropper.

I would like to reply once more to Mr. Henry Alley, and say that I have some pure Brown or German bees that I wouldn't trade for any other race of bees on earth; but they have one very serious fault—they won't swarm enough to suit me; nor are they good cell-builders; but as I am not a queen-breeder and haven't any queens to sell, I am not seeking any free advertising.

I am one of those fellows who want my bees to swarm once, and that is about the last of May, or forepart of June, as I much prefer natural queens to any other; but by the way I have been handling my bees for the last 6 or 8 years I have completely broken them of swarming, and I didn't want to; and the funny part of it is I don't know just what part of the performance has done it, or I would let those into the secret who want things that way.

Now I am going to give the old queen-breeders a kink that they probably haven't thought of, in the way of handling young larva and royal jelly. Instead of using a feather or spoon and scraping the larva around in the cell, and killing or crippling many of them, just take a medicine-dropper with the largest hole in it you can find, or break it off back where the hole is large enough to admit a very small larva. Draw up a little royal jelly into it first, then the larva, then more royal jelly and then insert it in a cell-cup and eject the whole, and you have the cell-cup all done.

Linn Co., Oreg.

GEO. B. WHITCOMB.

Getting Bees Into Supers and No Swarming.

I notice on page 401 that Mr. Davenport's method of controlling swarming of bees will not be given to the public. I believe the public already know as much as is necessary on the subject.

I have 50 colonies of bees, and in the last 3 years I have not had any of them swarm without my will. I have learned my method partly through the valuable American Bee Journal, and partly through my own observations and experiments.

About the time the bees are preparing to swarm I place the super on top of the hive, and then they must have some inducement to go up, the same as a fish is induced to bite the hook. So I put in a section of honey, uncapped, which will cause them to go up after it, and in so doing they will commence to move up and work, and lay aside all notions of swarming.

If I notice that this section of honey fails to do the work, then I put in one more, and in 9 times out of 10 it is successful. But should I fail, and they swarm after the above method has been tried, then I put the swarm in a super and place the super on top of the mother colony, and they will stay.

This year I intend to allow some of my bees to swarm, as there are not so many bees in this county as last year, on account of last summer's unfavorable honey-season, which was the cause of many losing their bees last winter for want of food. I lost but 1 colony, as I fed them a little this spring.

My bees are doing very nicely now. I think they will have no trouble to get all the honey they want.

I think the prospects in this locality are very favorable this year.

I wish to thank the many contributors of the American Bee Journal for the many valuable points they have given in its columns.

A. G. ERICKSON.

Monett, Mo., May 15.

Safe Introduction of Queens.

I will give a plan which, if followed, never fails with me in successfully introducing queens:

First, when the queen arrives make the colony queenless. As soon as the old queen is found, either destroy her or (if you want to use her further) take 2 or 3 frames of brood with adhering bees, put them in a new hive, and on a new stand; or better still, put 3 frames of brood on a new stand, after seeing that the old queen is not there. To make sure of this, you would better hunt her out first, and set the frame on which you find her to one side; then take out the frames as directed, and put the queen back into the hive.

Find a comb on which young bees are hatching, and when you see bees just emerging, gently catch them by both wings with the thumb and first finger, and put one by one into a new cage containing only the new queen, until you have put 8 or 10 into it. Then put the cage right in the new hive on a new stand by simply moving 2 of the 3 frames apart so that it will just fit in above the combs. Press the frames firmly together, close the hive and let it alone for 10 or 12 hours, then pull the cork out of the cage, or if paper is tacked over the end with candy in it, pull it off so the bees can help those in the cage to release her. This is an important point, as the sooner they release her at this time the sooner egg-laying will commence.

Let the hive alone for 5 or 6 days, and you will never lose a queen, as the bees that have just hatched move about the queen in the cage, and impart the scent of the other bees of the hive to the queen, and, of course, they will not harm her. Also, you can, after putting the young bees into the new cage, and if you have removed the old queen as directed and cut out all queen-cells, put the cage in the hive of the old colony. In fact, the best results are obtained by putting the cage in right away, as soon as the old queen is removed. Also, if you have a feeder, it is best to fill it and put it in the hive, so that no robbing is induced; close the hive-entrance so that only a few bees can pass out at a time.

But to go back to the old hive: After removing the 3 frames, put empty ones in their places right away, so as not to retard the work. The best thing to do is to put 1 frame between 2 combs, as it will induce them to build them out at once. Also, by putting empty frames between drawn combs the queen will not lay in one side or the other, as she would in case you put the 3 empty frames in the center of the brood-chamber.

I am writing this in the hope that it will still be in time to save many a good queen which would otherwise be killed. After losing many good queens I adopted this plan, and have not lost one since. Later on I will give a plan by which 20 colonies can be formed from 2 and still produce a surplus of honey.

JULIUS HAPPEL.

Evansville, Ind., May 28.

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E. T. ABBOTT, St. Joseph, Mo.

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	1	6	12	1	6	12		1	6	12		1	6	12	
Untested	\$.75	\$4.00	\$7.50	\$.60	\$3.25	\$6.00	\$.85	\$4.50	\$8.00		\$.95	\$5.00		8.50	
Select Untested	1.00	5.00	9.00	.75	4.25	8.00	1.10	5.50	9.50		1.20	6.00		10.00	
Tested	1.50	8.00	15.00	1.25	6.50	12.00	1.60	8.50	15.50		1.70	9.00		16.00	
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Honey and Beeswax

CHICAGO, June 22.—The demand for honey, both comb and extracted, is slow. Fancy comb brings 15c per pound; No. 1, 14c; off grades, 10@12c. Extracted, white, 6½@7c; amber, 5@6c. Beeswax, 30c. **R. A. BURNETT & CO.**

TOLEDO, Feb. 19.—The market for comb honey has been better for the past two weeks than at any time during the past season. Prices are firm on account of the scarcity. We are getting 15@16c for fancy white clover; 14@15c for No. 1, and 13@14c for amber. Buckwheat, 13c. Extracted honey is in good demand at following prices: White clover in barrels brings 6½@7c; amber, 5½@5¾c; in cans every grade from 1@1¼c higher. Beeswax is firm and in good demand at 28 and 30c. The above are our selling prices, not what we pay. **GRIGGS BROS.**

INDIANAPOLIS, May 12.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c. Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for \$33 per 100 pounds. **WALTER S. POWDER.**

PHILADELPHIA, June 20.—There is no new honey arriving in this market as yet, and so few lots of old honey that we cannot establish any price. Some little lots of Southern extracted honey have arrived in barrels. We quote: New Southern extracted, light amber, 6½c; amber, 6c. Beeswax selling freely at 29c. We are producers of honey and do not handle on commission. **WM. A. SELSER.**

NEW YORK, May 8.—There is still some demand for comb honey, mostly for fancy grades, which are selling at from 14@15c per pound; off grades in no demand and prices are irregular, ranging from 8@12c, according to quality; sufficient supply to meet demand. Extracted is in fair demand, mostly from California, of which there seems to be abundant supply of all grades. We quote: White, 5½@7c; light amber, 6c; dark, 5@5½c, according to quality and quantity. Beeswax scarce and firm at 29@30c. **HILDRETH & SEGELKEN.**

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C. H. W. WEBER

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CINCINNATI, June 15.—The demand for extracted honey has brightened up within the past 30 days. However, there is so much of last season's crop still unsold, which tends to hold down the price. There is no material change in prices since our last quotation. We quote amber in barrels at 5@6½c. No new white clover extracted honey on the market as yet. New crop of comb honey finds ready sale at 14@15½c. Choice yellow beeswax, 30c, delivered here.

THE FRED W. MUTH CO.

DENVER, Feb. 5.—Owing to the mild weather the demand for honey has not been as good as usual at this time of year. We are quoting strictly No. 1 white alfalfa comb honey at \$3.35 to \$3.75 per case of 24 sections; off grade and light amber at \$3 to \$3.30. White extracted alfalfa in 60-pound cans, 7½@8½c; light amber, 6½@7½c. Beeswax, 24c for clean yellow.

THE COLO. HONEY-PRODUCERS' ASSN.

KANSAS CITY, May 31.—The honey market here is bare, no new honey in market yet. The market is about \$3.25 per case on fancy white. Extracted, 5½@6c. On account of the warm weather and heavy receipts of fruits, the inquiry for honey is dropping off, but we believe with the advent of new honey there will be a good demand for same. **C. C. CLEMONS & CO.**

CINCINNATI, March 7.—The demand for comb honey is slow, prices obtained are the same. Stock on hand seems to be sufficient to supply the wants. Quote fancy white, 14@16c. Amber extracted in barrels, 5½@5¾c; in cans, ¾c more; fancy white clover in 60-lb. cans, 7½@8½c; Southern, equal to white clover in color, from 6½@7c. Bright yellow beeswax, 30c.

C. H. W. WEBER.

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